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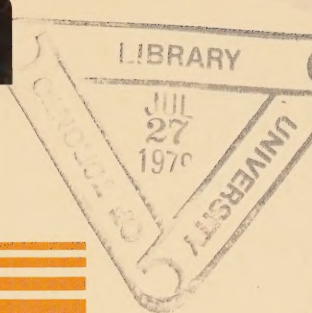
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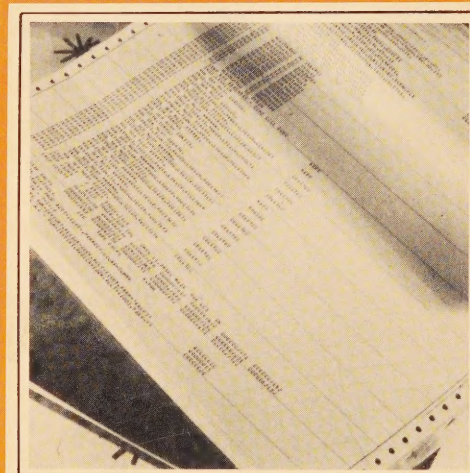
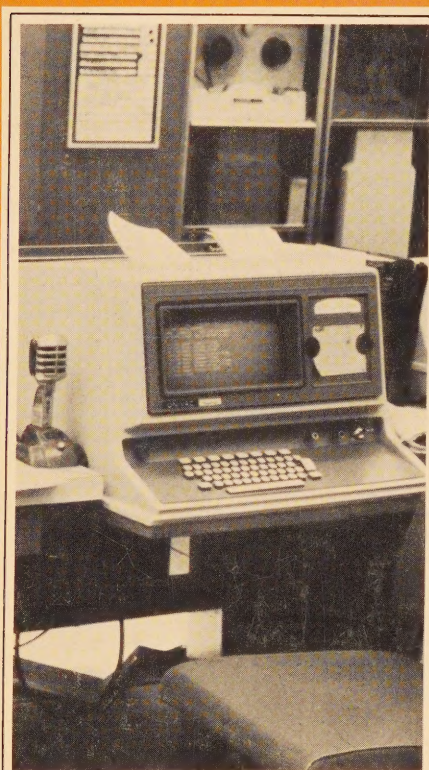


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# ONTARIO RECREATION SURVEY



## Tourism and Recreational Behaviour of Ontario Residents



## 8 User's Guide to Analysis

Tourism and Outdoor Recreation Planning Study





ONTARIO  
RECREATION  
SURVEY

Tourism  
and  
Outdoor  
Recreation  
Planning  
Study

TOURISM AND RECREATION BEHAVIOUR OF  
ONTARIO RESIDENTS - VOLUME 8: USER'S  
GUIDE TO ANALYSIS



TOURISM AND OUTDOOR RECREATION PLANNING STUDY COMMITTEE  
PARLIAMENT BUILDINGS  
JULY 1977

*Ontario Miscellaneous publications*





Provincial  
Secretary for  
Resources  
Development

Parliament Buildings  
Queen's Park  
Toronto Ontario

April 1, 1977

As Provincial Secretary of the Cabinet Committee to which the interministerial Tourism and Outdoor Recreation Planning Study Committee reports, it is my pleasure to make available the series of final reports derived from the Ontario Recreation Survey.

The Ontario Recreation Survey has been a project of the interministerial Tourism and Outdoor Recreation Planning Study (TORPS) Committee, a committee made up of representatives from the ministries of the Ontario Government which play a major role in the provision of recreation and tourism opportunities in Ontario.

Several years ago, in recognition of the need for a comprehensive data base on the recreation and tourism behaviour of Ontario residents, the TORPS Committee initiated the process which resulted in the designing, conducting, analysing, and reporting of results from the Ontario Recreation Survey.

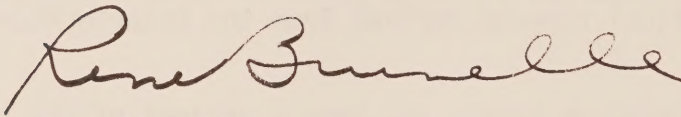
The reports included in this series are based on a data bank containing the results of over 10,000 scientifically conducted personal interviews of a carefully selected group of Ontario residents during the period May 1, 1973 to April 30, 1974.

The primary purpose of the Survey was to provide comprehensive, valid information on recreation and tourism participation patterns and preferences and to gain a better insight into various aspects of recreation behaviour of Ontario residents.

The need for such information was earlier identified by the TORPS Committee as being essential if comprehensive recreation and tourism planning was to occur at any or all of the provincial, regional, or local levels.

It is my sincere hope that recreation and tourism planners and managers at all levels of government and also the private sector, as well as academics, will find these published results of value to them. I strongly urge that they will make full use of the reports and the data upon which they were based. When this is done, I anticipate with confidence that recreation and tourism planning, management, and research in the province will be carried out at a quality and level of understanding unequalled in Canada.

Sincerely,

A handwritten signature in dark ink, reading "Rene Brunelle". The signature is fluid and cursive, with the first name "Rene" and last name "Brunelle" clearly distinguishable.

Rene Brunelle  
Minister

T.O.R.P.S.

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\* Dr. P. Klopchic, Mr. T. Spearin, Mr. S. Solway and Mr. L. Siu, no longer associated with T.O.R.P.S., also made major contributions to the initiation and development of the Ontario Recreation Survey.

TOURISM AND RECREATIONAL BEHAVIOUR OF ONTARIO RESIDENTS,  
VOLUME 8: USER'S GUIDE TO ANALYSIS was prepared by Larry Douglas, Glenn Pincombe and Patrick Buckley with the assistance of Vic Paddy.



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## FOREWORD

The purpose of this report is to provide the serious user of the Ontario Recreation Survey (ORS) with the details necessary for an accurate interpretation of published ORS reports and to provide documentation that will permit further analysis of the data. This report, along with The Ontario Recreation Survey - Survey Documents (1973) provides a complete documentation of the survey.

Chapter I of this report traces the events leading to the decision to undertake the survey and outlines the specific types of data that the survey was designed to collect.

All of the many stages involved in designing and executing the Pilot Study are given in Chapter II. The knowledge and experience gained from the Pilot Study are described in detail and particular attention is paid to indicating how this knowledge and experience influenced the final design of the ORS.

Formal descriptions of The Sample Design and Estimation Procedures are given in Chapter III. Considerable attention is directed towards providing detailed explanations for the many decisions that were made.

The ORS questionnaire has a very complex structure. Chapter IV describes some of the less obvious ways that responses from one section of the questionnaire can be used together or in conjunction with responses from other sections either to derive more specific estimates or to allow elaboration of certain relations. In addition, limitations to analysis and interpretation resulting from the definitions or sampling and weighting procedures are listed.

The appendices are included mainly for the user who wants to undertake further analysis of the data. Appendix A provides examples of how a case weight and a trip imputation factor are computed. Appendix B specifies the population from which the sample was derived. Appendix C includes a record card layout of the variables from the questionnaire, as well as additional variables created to facilitate analysis. A coding manual is provided in Appendix D. The complete editing procedures, both manual and computerized, are described in Appendix E.

## CHAPTER I

### BACKGROUND AND PURPOSE

#### 1. BACKGROUND

The concept of an Ontario Recreation Survey grew out of the concern during the 1960's about the serious dichotomy existing between the tourism and recreational opportunities desired by Ontario residents and the facilities and activities provided for their use. Lacking both a comprehensive perspective of public preferences and, in many cases, even simple baseline data on participation, administrators often had few guidelines for programme development and administration. In such cases, they were forced to temporize or act intuitively in what they considered to be the best interests of the general public's long term investment in recreational development, vis-a-vis the more immediate demands of a variety of participating groups.

There was then a genuine need for information concerning the use of various tourism and recreation facilities, the frequency of use, the type of activity, and the possible requirements for such activity. This need was expressed in a number of ways.

The Conservation Council of Ontario, in a brief submitted to Premier John P. Robarts in 1963, stated that "the Province is heading into a major outdoor recreational crisis for want of coordinated, long range planning and the information needed to formulate these plans and carry them into effect".

Earlier in 1961 at the Resources for Tomorrow Conference, H.L. Crombie of the Canadian Government Travel Bureau wrote, "it is apparent there are insufficient data to permit a comprehensive understanding of the (tourism) industry's present resource needs or to allow for realistic planning. There is a definite need for intensive research to fill several gaping holes in current statistical studies".

At the national level, the first large scale attempt at determining supply and demand of recreation was the Canadian Outdoor Recreation Demand Study (CORD). This study, which began in 1966, was carried out under the auspices of the Federal-Provincial Parks Conference. It was primarily orientated toward considering outdoor recreational activities, particularly those activities occurring in National and Provincial Parks. In total, five household surveys were undertaken as part of CORD (1976). The sample sizes for Ontario from these surveys provided, however, little opportunity for analysis at the sub-provincial scale.

In Ontario, the need for comprehensive data stemmed from the fact that the Province's population was increasing rapidly and concentrating itself in Southern Ontario, particularly in the Toronto-London-Niagara Falls triangle. There was increasing competition for the limited amount of open space suitable for outdoor recreation in this area and a feeling that similar shortages were likely to occur in the future in other parts of the Province. This pressure was accompanied by other influential factors such as the growth of disposable income, greater ease of transportation in the air and through

other mass modes, increased leisure time through shorter working hours, longer vacations and earlier retirement, and the emergence of a greater environmental awareness.

A feeling grew that the needs of the future could only be met by a coordinated programme of long range planning on a provincial, regional and local scale which, to be effective, must rest on a solid foundation of factual knowledge.

The Tourism and Outdoor Recreation Planning Study Committee was therefore formed to introduce some kind of rationale and coordination to the many tourism and outdoor recreation programmes carried out by various government departments, and a programme was formulated to develop planning procedures and techniques. One of the first major undertakings of this committee was the Ontario Recreation Survey.

## 2. PURPOSE FOR SURVEY

The four primary purposes for which the survey data were collected are:

- (a) to aid government ministries in developing plans and policies for effectively providing recreational opportunities that would maximize user satisfaction;
- (b) to provide the integrated data base required for the detailed analysis necessary to gain a better understanding of the complexities of tourism and recreation behaviour;
- (c) to provide a basis for the comparison and validation of results from existing user surveys;
- (d) to provide data necessary for the development of models of tourism and recreation behaviour that could be used to evaluate alternative strategies for providing recreational opportunities.

### 2.1 Data Requirements by Member Ministries

Each of the five ministries involved in the survey had a number of different requirements for data. The TORPS Committee therefore was charged with the responsibility of synthesising these requirements into a number of questions that could be handled through a personal interview survey. Data requirements of the TORPS model, to be described in the next section, further complicated the task.

The requirements of the five ministries represented on the TORPS Committee in 1971 are outlined below. These requirements depended on each ministry's area of responsibility.

2.1.1 The Ministry of Culture and Recreation\*  
required data that would:

- (a) determine the number and characteristics of participants by specified recreational activities by location in Ontario;
- (b) ascertain the amount and use of free time by Ontario residents;
- (c) specify the segments of the population being served by provincial, municipal or private facilities;
- (d) determine the preferences of Ontario residents to engage in specified free time activities and to determine the constraints to further participation (lack of opportunity, poor quality facilities, physical handicap, etc.);
- (e) identify client groups within the population that require the provision of special recreational services.

2.1.2 The Ministry of Industry and Tourism  
required data that would:

- (a) determine the number, characteristics, party size and trip-taking patterns of Ontario residents participating in particular recreational activities and using specified forms of accommodation in conjunction with recreational trips;
- (b) define the share of the market served by provincial, municipal, private commercial, and private non-public suppliers of recreational and accommodation facilities;
- (c) determine preferences for accommodation types and the reasons for those preferences;
- (d) define market area, market share and segment of the market served by existing recreational and accommodation facilities in order to determine the market for proposed facilities and their possible impact on existing facilities;
- (e) aid field staff in better advising potential investors in tourism oriented facilities on the basis of the present and potential demand for these facilities;
- (f) aid field staff in responding to Ontario Development Corporation requests for evaluation of proposed investments;
- (g) specify the number, demographic characteristics, activity/accommodation patterns, origins and destinations, of those people leaving Ontario for weekend and vacation trips in order to calculate the effect of this outbound tourism on Ontario's balance of payments;

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\*At the time that the Ontario Recreation Survey was under preparation, the TORPS Committee had representation from the Ministry of Community and Social Services. With government reorganization in 1975, this responsibility for representation on the Committee came under the mandate of the Ministry of Culture and Recreation.

- (h) aid tourism advertising and promotion efforts by identifying market areas and segments of the population having inadequate awareness of recreational opportunities in a regional or provincial context;
- (i) aid policy and planning by identifying sectors of the tourism market that could effectively be served by private entrepreneurs.

2.1.3 The Ministry of Natural Resources  
required data that would:

- (a) determine relative participation rates among activities and the portion of the total participation in outdoor recreational activities that the Ministry programmes provide for various socio-economic groups and geographic areas;
- (b) determine how much of the total recreation participation is provided by Ministry programmes versus other jurisdictions;
- (c) provide participation data for the Ministry's supply-allocation model. Output from this model indicates the relative recreational opportunities available to the various urban-centered regions in the Province;
- (d) provide information about the preferences and constraints associated with outdoor recreational activities;
- (e) provide basic input data for special studies such as the Ski Study of Southern Ontario or the Development of a Recreation Trails Policy;
- (f) compare with data from previous user surveys in order to relate these user surveys to the population as a whole and determine trends in participation rates.

2.1.4 The Ministry of Transportation and Communications  
required data that would:

- (a) determine precise origin-destination information for recreational trips, causal variables associated with trip productions and attractions, volumes of recreational trips, and travel resistance curves stratified by type of trip or activity by time period and by socio-economic group;
- (b) derive explicit relations which predict the generation of recreational trips;
- (c) form input into a recreational trip distribution process which would show the number of zone to zone interchanges by recreational trip type;
- (d) improve methods of forecasting recreation and tourism travel in order to make more informed decisions on what types of transportation to provide;
- (e) ascertain the potential for increased use of public transportation for recreation travel.

2.1.5 The Ministry of Treasury, Economics and Intergovernmental Affairs  
required data that would:

- (a) provide information about recreational requirements in a provincial framework for use in municipal planning projects;
- (b) determine the amount of free time spent on leisure or recreational activity;
- (c) determine home based versus extended activity and travel patterns;
- (d) provide measures of geographic impacts of recreational activity with special reference to the Southern Ontario and urban foci.

2.2 TORPS Model Requirements

The Ontario Recreation Survey was designed to provide input for 15 of the 29 modules of the TORPS model (Tourism Outdoor Recreation in Ontario, 1970). These data requirements are detailed in Table I-1.

TABLE I-1

DATA PROVIDED BY ONTARIO RECREATION SURVEY FOR TORPS MODEL

<u>FILE NAME</u> (MNEMONIC)	<u>REQUIRED FOR</u>	<u>DATA SOURCE</u>	<u>INFORMATION DESCRIPTION</u>	<u>STRATIFICATION</u>	<u>USE IN MODEL</u>
Activity Conversion Factors (ACF)	Input	ORS Analysis of Section C-Q.12, Q.13, Q.15, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (for Weekend trips); Section D-Q.12, Q.13, Q.15 Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (for Vacation trips)	Person-Days of Participation in Activities by Activity/Accommodation Packages	Destination Zone, Activity, Accommodation Packages	Calculation of Activity Consumption
Activity Dumping Factors (ADF)	Input	ORS Analysis of Origin Variable, Section C-Q.7, Q.12, Q.13, Q.15, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (Weekend); Section D-Q.7, Q.12, Q.13, Q.15, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (Vacation); Section H-Q.33, Q.35	% of Residents Leaving Ontario	Origin Zone, Activity, Activity/Accommodation Packages, Income, Time Period	Calculation of Final Participation
Activity Preference Data (APD)	Input	ORS Analysis of Section F-Q.9, Q.8 by Q.2, Q.8 by Q.4, Q.6; Section G-Q.2 by Q.3, Q.6 by Q.7 crossstabbed by Section H-Q.33, Q.35 and new created variable for Age/Family structure	% of Time preferred to be allocated to Activity, Activity/Accommodation Packages	Income, Age/Family Structure, Time Period, Activity, Activity/Accommodation Packages	Provide Preference Data Used in Calculation of Opportunity Factors
Lodging Conversion Factors (LCF)	Input	ORS Analysis of Section C-Q.9 by Q.15, Q.25 (Weekend); Section D-Q.9 by Q.15, Q.25 (Vacation)	Persons/Lodging Unit by Accommodation Types for Activity/Accommodation Packages	Activity/Accommodation Packages	Calculation of Lodging Consumption
Leisure Time Budget (LTB)	Input	ORS Analysis of Section E-Q.3, Q.6, Q.9, Q.10, Q.11, Q.12, Q.13; Section H-Q.3, Q.6, Q.9, Q.10, Q.11, Q.12, Q.13	Average Person-Days of Free Time Available	Income, Age/Family Structure, Time Period	Calculation of Leisure Time
Opportunity Demand Match (ODM)	Research and Input	ORS Analysis of Section F-Q.7 by Q.2, Q.4 by Q.6; Section G-Q.3 by Q.2 by Q.4 and Q.7 by Q.6 and Q.8	A Substitution Relation between Preferences and Opportunities	Activity, Activity/Accommodation Packages, Income, Time Period	Calculation of Revised Leisure Time

TABLE I-1 (continued)

FILE NAME (MNEHONIC)	REQUIRED FOR	DATA SOURCE	INFORMATION DESCRIPTION	STRATIFICATION	USE IN MODEL
Socio-Economic Data (SED)	Input	ORS Analysis of Origin Variable; Section H-Q.6, Q.33, Q.35; and new created variable for Age/Family structure - Statistics Canada 1971 Census	Population Totals	Origin Zone, Income, Age/Family Structure	Calculation of Leisure Time
Travel Resistance Curves (TRC)	Input	ORS Analysis of Origin Variable; Section B-Q.5 (for all Daily Activities); Section C-Q.11, Q.12, Q.13, Q.15, Q.17, Q.19, Q.23, Q.25, Q.26 (Weekend); Section D-Q.11, Q.12, Q.13, Q.15, Q.17, Q.19, Q.23, Q.25, Q.26 (Vacation); Section H-Q.33, Q.35	Relationship describing propensity to travel between zones	Activity, Activity/Accommodation Packages, Income, Time Period	Calculation of Travel Resistance Factors
Time Shift Function (TSF)	Research and Input	ORS Analysis of Section E-Q.3, Q.6, Q.9, Q.10, Q.11, Q.12, Q.13; Section H-Q.19, Q.20, Q.21, Q.23, Q.24, Q.25, Q.33, Q.35; and new created variable for Age/Family structure	Functional relationship for shifting from daily to extended periods and vice versa	Income, Age/Family Structure	Calculation of Revised Leisure Time
Activity Consumption (CON)	Output	ORS Analysis of Section B-Q.5(Daily); Section C-Q.12, Q.13, Q.17, Q.19 (Weekend); Section D-Q.12, Q.13, Q.17, Q.19 (Vacation)	Person-Days of Participation in Activities by Destination Zone	Destination Zone, Activity, Time Period	Check on the Consumption Methodology
Trip Distribution (DBT)	Output	ORS Analysis of Origin Variable; Section B-Q.5 (Daily); Section C-Q.12, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.25, Q.26; Section D-Q.12, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.25, Q.26	Person-Days of Activity and Activity/Accommodation Packages, Participation from each Origin Zone to each Destination Zone	Origin Zone, Destination Zone, Activity, Activity/Accommodation Packages, Time Period	Check on the Travel Resistance Function and Attractivity Methodology
Demand (DEM)	Output	ORS Analysis of Origin Variable; Section F-Q.9, Q.8 by Q.2, Q.8 by Q.4, Q.6; Section G-Q.2, Q.3 by Q.1, Q.6, Q.7 by Q.5; Section H-Q.33, Q.35	Demand for Activities in Person-Days	Origin Zone, Activity, Activity/Accommodation Packages, Income, Time Period	Calculation of Participation

TABLE I-1 (continued)

<u>FILE NAME (MNEMONIC)</u>	<u>REQUIRED FOR</u>	<u>DATA SOURCE</u>	<u>INFORMATION DESCRIPTION</u>	<u>STRATIFICATION</u>	<u>USE IN MODEL</u>
Lodging Consumption (LCN)	Output	ORS Analysis of Section C-Q.11, Q.12, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (Weekend); Section D-Q.11, Q.12, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20, Q.22, Q.23, Q.24, Q.25, Q.26 (Vacation)	Consumption of Lodging Type in Lodging Unit-Days by Activity/Accommodation Packages	Destination Zone, Activity/Accommodation Packages	Check Lodging Conversion Factors and the Conversion Routine
Leisure Time (LTM)	Output	ORS Analysis of Origin Variable, Section E-Q.3, Q.6, Q.9, Q.10, Q.11, Q.12, Q.13; Section H-Q.19, Q.20, Q.21, Q.23, Q.24, Q.25, Q.33, Q.35; and new created variable for Age/Family structure by population of each county, district and regional municipality	Total Person-Days of Free Time available for each socio-economic group	Origin Zone, Income, Age/Family Structure, Time Period	Calculation of Demand
Participation (PAR)	Output	ORS Analysis of Origin Variable, Section B-(Q.6), Q.7, Q.8; Section C-Q.11, Q.12, Q.13, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20 (Weekend); Section D-Q.11, Q.12, Q.13, Q.15, Q.16, Q.17, Q.18, Q.19, Q.20 (Vacation); Section H-Q.33, Q.35 and new created variable for Age/Family structure	Total Person-Days of Participation in activities and activity/accommodation packages	Origin Zone, Activity, Activity/Accommodation Packages, Income, Time Period	Compare Demand and Distribution Routines

## CHAPTER II

### ONTARIO RECREATION SURVEY PILOT STUDY

#### 1. INTRODUCTION

A pilot study was undertaken to provide the sampling and questionnaire design guidelines for the Ontario Recreation Survey (ORS) (see Ontario Recreation Survey, Survey Documents, 1973). Social survey literature (Kish, 1965; Moser, 1958; and Sellitz et al, 1959) strongly endorses undertaking a pilot study when:

- (a) the proposed survey is large scale and costly;
- (b) the information gained is to be used for making important, long range decisions;
- (c) the subject area being studied is poorly understood;
- (d) no similar previous survey has been completed in the study area.

Chapter II describes the stages involved in undertaking the pilot study. Major findings and, in particular, their subsequent impact on the design of the ORS questionnaire, are described in detail.

#### 2. DETERMINATION OF DATA REQUIREMENTS

The design of the Ontario Recreation Survey Pilot Study was preceded by three background review phases.

##### 2.1 Present Government Programmes

The first phase included a comprehensive review of the recreation, tourism and travel objectives of each branch of the five provincial ministries that were members of the Tourism and Outdoor Recreation Planning Study (TORPS). In sessions with the TORPS survey team, branches of the ministries involved defined their present programmes, indicated how each programme was subdivided and outlined the types of management information they were presently collecting. Information needed to make key decisions was singled out for particular attention. Details about how data were being collected, definitions, and categories used for classifying data during analyses, were specified. The branches evaluated the adequacy of their present user information, identified gaps in this user information and expressed their degree of confidence in making participation projections. Next, the branches outlined issues facing their programmes and indicated which types of new programmes they were likely to be involved with in the future. The types of participation and user information needed to determine the benefits and costs of possible new programmes were discussed in depth.

## 2.2 Content of Other Large Scale Tourism and Outdoor Recreation Surveys

The second review phase included a detailed study of recently completed major recreation and tourism surveys. The surveys reviewed included:

- (a) the 1971 Canadian Travel Survey;
- (b) the 1960 Outdoor Recreation Resources Review Commission Survey;
- (c) the 1967-1969 Canadian Outdoor Recreation Demand Study; Big 8-M Household Surveys;
- (d) the 1967-1969 Birmingham Recreation Survey.

These surveys were reviewed in terms of (a) content; (b) definitions and response categories used for specifying socio-economic variables; (c) sample design; (d) major sources of variance in estimates; (e) cost; (f) any major problems encountered.

## 2.3 Data Requirements for Projection Models

A review of the data requirements for the more commonly used participation projections techniques was closely associated with review phases I and II. Applications of survey data by various jurisdictions were reviewed. Special attention was given to the modelling techniques used in the preparation of the Statewide Comprehensive Outdoor Recreation Plans of California (1966), Michigan (1968), and New York (1970).

The data requirements of the TORPS Prototype Model (Tourism and Outdoor Recreation in Ontario; 1970) were evaluated at this stage and those data requirements that could be met through a household-based survey were identified. A general review of the more highly regarded econometric projection techniques was also undertaken. Here the works of Mueller and Gurin (1962) and Cicchetti, Seneca and Davidson (1969) were reviewed in depth.

## 3. DESIGN OF THE PILOT STUDY

### 3.1 Questionnaire Design

Once the background review was completed, the development of the pilot questionnaire began. A list of data requirements was developed by combining the results from sessions with the various branches having tourism and recreation objectives, the data requirements of the TORPS Prototype Model and the data requirements of the various demand projection techniques. Next, a common set of activity and trip definitions was developed. An initial draft questionnaire was then constructed. This draft excluded only those detailed data requirements which would require a much larger sample than the budget allowed or else could be collected more efficiently from user surveys at the recreation site. The draft of the questionnaire was reviewed internally by the TORPS Technical Sub-Committee, revised, and sent,

along with definitions, to the various branches for comment. An attempt was made to incorporate as many of the branch comments as possible into the next draft questionnaire and to resolve conflicts in definitions.

The third draft of the questionnaire was sent out to all of the branches. In addition it was distributed to a number of recreation professionals outside the provincial government for critical comment. The comments received were reviewed and as many as possible were incorporated into the next draft. This fourth draft of the questionnaire was used as a basis for tendering a contract for the pilot study.

### 3.2 Sample Design

The draft questionnaire for the pilot study was tested in as many different circumstances as possible as it was believed that such a strategy would indicate the degree of acceptability of particular questions and provide the opportunity for isolating and correcting interviewee misunderstanding due to imprecise definitions and/or overly complex questions. It was also felt that the degree of difficulty associated with recalling details of travel and recreation could be investigated. Moreover, by carrying out the study in different geographical locations with individuals of different socio-economic backgrounds, it was felt that a more precise estimation of costs, interview length and logistical problems associated with a province-wide survey would be obtained.

Another objective of the pilot study was to determine which variables were most highly associated with recreational and tourism behaviour in Ontario. From an analysis of real data it would be possible to estimate variances that could be expected for particular estimates. The corresponding sample size required to make these estimates at a given confidence level could then be roughly estimated.

The pilot study sample was designed to meet the above objectives within the constraints of: (a) a limited sample size (approximately 1,000 interviews); (b) a cost constraint which required that areas for sampling be concentrated; and (c) a lack of up-to-date socio-economic information on which to base sample selection.

The selection of the sample went through four states of refinement:

- (a) selection of criteria (variables) on which the sample was to be based;
- (b) selection of a limited number of counties which, in combination, best met these criteria;
- (c) selection of smaller sampling areas within these chosen counties;
- (d) selection of households and respondents within these smaller sampling areas.

Considering the results of other roughly similar surveys,

an attempt was made to select a sample that would be as heterogeneous as possible with respect to the variables and cross-variable combinations of:

- |  |                             |
|--|-----------------------------|
| (a) age                                  | (g) quality, quantity and   |
| (b) sex                                  | variety of recreational and |
| (c) income                               | cultural opportunities      |
| (d) education                            | (h) city size               |
| (e) occupation                           | (i) urban/rural mix         |
| (f) industrial classification<br>of jobs | (j) ethnic composition      |
|  | (k) geographic location     |

In addition, it was felt that the following residence locations and types should also be included:

- |                   |  |
|-------------------|--|
| (a) border area   | (c) high-rise apartment complex                |
| (b) commuter zone | (d) a town undergoing rapid<br>urban expansion |

Using the above variables as criteria, a three stage elimination process took place. The number of counties was first reduced to twenty-nine, then to eleven, and finally to six. Six was found to be the fewest counties that could be considered without compromising any of the criteria believed important to selection of a sample. The recommended list of counties and the characteristics for which they were chosen are shown in Table II-1.

Once the counties were selected, smaller areas within each county that best represented the characteristic for which the county was originally chosen were selected (see Table II-2). Census tract information from the 1961 census was used for this purpose whenever such disaggregated information was available. After appropriate areas were demarcated, corresponding 1971 census enumeration areas were randomly selected. Five households initially were selected within each enumeration area by using a modified random start, systematic walk pattern. All persons twelve years of age or older were listed from selected households and one persons was selected from each household for interviewing. Up to three contacts per household (one preliminary contact plus two callbacks) were required before substitution of another household within the enumeration area was allowed. When substitution of households occurred, it followed an extension of the original systematic walk pattern. No substitution of respondents within households was allowed.

The study design and review process along with the development of contract specifications was carried out between November 1971 and March 1972.

#### 4. TESTS

Although the entire pilot study was designed as an experiment, five parts of the study were singled out for special attention.

TABLE II-1

AREAS SELECTED FOR TESTING ORS PILOT STUDY

<u>COUNTY</u>	<u>CHARACTERISTICS</u>
Dundas	Rural farm; low income; example for Eastern Ontario; relative lack of museums, art galleries and opportunity to view performing arts.
Muskoka	High outdoor recreational opportunity; relative lack of museums, art galleries and opportunity to view performing arts; example of area of intense commercial recreation activity; large per cent rural non-farm population; low income.
Lambton	Example of border county; high per cent English speaking population; has city in 50,000-100,000 range; medium to high income; mix of farm and urban populations; high per cent of work force in secondary manufacturing; Western Ontario example.
Waterloo	Good mix of city sizes, high income rural area; high per cent of work force in light manufacturing; high per cent of work force as craftsmen and process workers; area of high education attainment - university community.
Sudbury	High per cent of work force in primary industry; good mix of income groups; low income urban places; high per cent French speaking population; high in outdoor recreational opportunities; Northern Ontario example.
York and Metro Toronto	Very high urbanization; commuting zones; good mix of income, education, occupation, industrial and ethnic characteristics; example of rural area with high real estate values; fringe communities of Toronto experiencing very rapid growth and transformation of way of life; relative abundance of museums, art galleries and opportunities to view the performing arts; low outdoor recreational opportunity.

TABLE II-2

SUB-AREAS SELECTED FOR TESTING ORS PILOT STUDY

<u>AREA</u>	<u>SAMPLE SIZE</u>	<u>CHARACTERISTICS</u>
<u>YORK</u> (including Metro Toronto)		
1) Richmond Hill	40	Town undergoing rapid expansion on fringe of metro.
2) E. Gwillimbury Twp.	40	Rural area with high real estate values.
3) Selected census tracts	40	A commuter zone; middle income & education; managerial, professional, technical occupations.
4) Selected census tracts	40	High income; large per cent managerial; high education.
5) Selected census tracts	40	Low income; high per cent English speaking area; low education; labouring occupations.
6) Selected census tracts	40	"Ethnic melting pot"; great range of income, education, occupation.
7) Selected census tracts	40	High-rise apartment complex.
<u>WATERLOO</u>		
1) Kitchener-Waterloo selected census tracts	80	High education; student population; high per cent German speaking; light manufacturing; large per cent craftsmen and process related workers; city size in 100,000-150,000 range; medium to high income.
2) Preston	40	City in 10,000-25,000 range; light manufacturing; medium to low education and income.
3) Galt	40	City in 25,000-50,000 range; light manufacturing.
4) North Blenheim Twp. west of Hwy. 24A	40	High income rural farm.
5) Ayr	30	Community of retired farmers; low income from wages and salaries.

TABLE II-2 (continued)

SUDBURY

1) Selected census tracts	40	High per cent French speaking population; low income.
2) Copper Cliff	40	High average income; high per cent of work force in mining industry.
3) Espanola	40	Primary industry including mining, wood products.
4) Noelville/Chapleau	40	Small, low income urban centres engaged in farming and lumbering.

MUSKOKA

1) Bracebridge/Huntsville Gravenhurst	40	High per cent of work force employed in service and recreation occupations; small towns orientated to tourism and outdoor recreation industry.
2) Point Carling/Bala	40	Small village, heavily orientated to tourism and outdoor recreation occupations.
3) All townships excluding Watt	40	High per cent non-farm rural population.

LAMBTON

1) Sarnia/Pt. Edward	60	Medium high income on border.
2) All townships excluding those adjacent to (1)	40	Rural farm, medium high income.
3) Wyoming/Watford	30	Small rural, service community; medium low income.

DUNDAS

1) Chesterville	40	Village; eastern Ontario.
2) All townships	40	Rural farm; low income.

#### 4.1 Free Time Yesterday

Two different formats for asking about available free time were rotated throughout the sample of 1,000 interviews (see Figure II-1). The first version asked about activities done and the total free time spent in each of the morning, afternoon and evening time periods. The second format had respondents estimate the total amount of time spent in each of seven pre-determined categories of free time activities.

#### 4.2 Preference

The review of the TORPS Prototype Model by the TORPS Technical Sub-Committee and by Dr. Bishop and Dr. Witt (1972) identified the preference module as being critically important but difficult to provide with meaningful input data. The module's importance related to its direct input to demand estimates and its indirect impact upon activity substitution. The problem with obtaining meaningful input data focused upon getting stated preference information which had a high probability of being translated into actual participation, and not merely reflecting a respondent's wishes or dreams. A review of the requirements for preference data identified a need to:

- (a) determine activities in which people desired to participate, or to participate more frequently;
- (b) determine the amount of desired extra participation;
- (c) isolate the perceived constraints to additional participation;
- (d) rank the importance of these various constraints;
- (e) determine which activities would get less participation if substitution into more desired activities occurred;
- (f) attempt to separate those activities which people would rather do on a weekend than on a vacation trip;
- (g) determine preferred activity/accommodation packages and reasons for corresponding choice of accommodation type.

In order to test how these requirements could be best met, three different sections on activity preference were developed (see Figure II-2). Each section had particular advantages or disadvantages in meeting one or more of the above requirements. The respondents were split into three groups with each group given one of the three sections.

#### 4.3 Weekend and Vacation Trips

The pilot study was designed to collect detailed information about the last weekend and/or vacation trip that the respondent had taken, given that a trip had been taken during the past three months (see Figure II-3). Trips were divided into segments for

FIGURE II-1

ALTERNATIVE QUESTIONS FOR FREE TIME YESTERDAY SECTION

ALTERNATIVE I		ALTERNATIVE 2	
<p>I'd like you to recall those things you chose to do in your free time yesterday/ Saturday - things like visiting friends, doing hobbies, going to the movies, watching T.V., reading the paper, relaxing - and many others.</p> <p>Now thinking about yesterday (Saturday) morning from the time you got up until lunch time, did you have any free time?</p> <p>If "Yes" ( )-1 Continue      If "No" ( )-2 Go to next paragraph</p> <p>What did you do with your free time? How long did you spend?</p> <p>RECORD EXACTLY IN DETAIL      TIME SPENT _____</p> <p>Now what about yesterday/Saturday afternoon - that is, from lunch until dinner or supper time. Did you have any free time?</p> <p>If "Yes" ( )-1 Continue      If "No" ( )-2 Go to next paragraph</p> <p>What did you do with your free time? How long did you spend?</p> <p>RECORD EXACTLY IN DETAIL      TIME SPENT _____</p> <p>What about yesterday/Saturday evening after dinner until you went to bed? Did you have any free time?</p> <p>If "Yes" ( )-1 Continue      If "No" ( )-2 Go to next paragraph</p> <p>What did you do with your free time? How long did you spend?</p> <p>RECORD EXACTLY IN DETAIL      TIME SPENT _____</p> <p>Did you work/attend school yesterday?</p> <p>Yes ( )-1 Go to Qu. 4      No ( )-2 Go to Qu. 3</p> <p>Were you retired, unemployed or on strike?</p> <p>Retired ( )-1 Unemployed/ On Strike ( )-2 Neither ( )-3</p> <p>Was yesterday a day which involved an overnight stay away from home?</p> <p>Yes ( )-1      No ( )-2</p> <p>Was yesterday a part of your vacation?</p> <p>Yes ( )-1      No ( )-2</p> <p>In total how many hours would you say you spent doing various recreational activities yesterday?</p> <p>Yes ( )-1      No ( )-2</p> <p>(RECORD TO NEAREST HALF HOUR) _____</p>		<p>1. Here are some other activities that people often do in their free time. Recalling yesterday/Saturday only, please estimate how many hours you spent in all things listed in each of the seven categories.</p> <p>(HAND RESPONDENT CARDS "1" TO "7", ONE AT A TIME. ATTEMPT TO GET RESPONDENT TO RECALL TIME SPENT IN EACH CATEGORY TO THE NEAREST HALF HOUR. IF LESS THAN ONE QUARTER HOUR SPENT IN ANY CATEGORY, DO NOT RECORD).</p> <p>i) Category 1 (Card "1") _____ hours      Other (RECORD) _____ ii) Category 2 (Card "2") _____ hours      Other (RECORD) _____ iii) Category 3 (Card "3") _____ hours      Jurisdiction _____</p> <p>NOW HAND RESPONDENT CARD "A" AND ASK:</p> <p>Where was most of your time spent "Relaxing out of doors". Card "A" will assist you in your answer. (RECORD ABOVE BY JURISDICTION)</p> <p>iv) Category 4 (Card "4") _____ hours      Other (RECORD) _____ v) Category 5 (Card "5") _____ hours      Other (RECORD) _____ vi) Category 6 (Card "6") _____ hours      Other (RECORD) _____ vii) Category 7 (Card "7") _____ hours      Other (RECORD) _____</p> <p>2. Did you work/attend school yesterday?</p> <p>Yes ( )-1 Go to Qu. 4      No ( )-2 Go to Qu. 3</p> <p>3. Were you retired, unemployed or on strike?</p> <p>Retired ( )-1 Unemployed/or on strike ( )-2 Neither ( )-3</p> <p>4. Was yesterday a day which involved an overnight stay away from home?</p> <p>Yes ( )-1      No ( )-2</p> <p>5. Was yesterday a part of your vacation?</p> <p>Yes ( )-1      No ( )-2</p> <p>6. Which recreational activities did you do yesterday? (READ LIST OF ACTIVITIES DONE IN PAST 3 MONTHS AS CHECKED ON OPPOSITE PAGE)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>7. In total how many hours would you say you spent doing these various recreational activities yesterday?</p> <p>(RECORD TO NEAREST HALF HOUR) _____</p>	

ALTERNATIVE QUESTIONS FOR ACTIVITY PREFERENCE SECTION

In order to do future planning the Government would like to know what prevents people from participating or participating more in activities they like doing.

N.B. ROTATE ALTERNATIVES 1, 2, 3 FROM INTERVIEW TO INTERVIEW  
ASKING ONLY ONE SET OF PREFERENCE QUESTIONS FOR INTERVIEW

PREFERENCE (ALTERNATIVE 1)

58. Are there any recreational or other free time activities that you would like to do more often?

Yes ( )-1 Continue No ( )-2 Go to Qu. 72

59. In order of preference which ones are they?

(RECORD BELOW IN ORDER THE FIRST FIVE ACTIVITIES)  
(FOR EACH ACTIVITY REPEAT THE FOLLOWING QUESTIONS)  
(N.B. USE "MORE" IF ACTIVITY PARTICIPATED IN ALREADY)

60. In order of importance to you which of the following reasons best explain why you don't participate (more) in this activity? Here is a card to assist you.  
(HAND RESPONDENT CARD "D")

(ALLOW RESPONDENT TO GIVE UP TO THREE REASONS. RECORD IN EXACT ORDER GIVEN)

61. How many (more) days a year would you like to participate in this activity?  
62. If reason One (i.e. first reason given) was not present, how many (more) days per year would you participate?  
63. Which one of the recreational and/or other free time activities you now do would you give up so you could (REPEAT PREFERRED ACTIVITIES IN QU. 59)?

PREFERENCE (ALTERNATIVE 2)

64. Are there any recreational activities or other free time activities that you would like to do or do more often?

Yes ( )-1 Continue No ( )-2 Go to Qu. 72

65. In order of preference which ones are they?

(RECORD BELOW IN ORDER THE FIRST FIVE ACTIVITIES)  
(FOR EACH ACTIVITY REPEAT THE FOLLOWING QUESTIONS)

66. In order of importance to you which of the following reasons best explain why you don't participate (more) in this activity? Here is a card to assist you.  
(HAND RESPONDENT CARD "B". RECORD BELOW)  
(ALLOW RESPONDENT TO GIVE UP TO 3 REASONS - RECORD IN EXACT ORDER GIVEN)

67. If you were given 100 chances to participate in these activities (NAMED ABOVE) how would you divide these 100 chances among the activities?

PREFERENCE (ALTERNATIVE 3)

68. Are there any recreational and free time activities that you now do only because you can't participate in others that you would prefer to do?

Yes ( )-1 Continue No ( )-2 Go to Qu. 72

69. What are these less preferred activities?

(ALLOW RESPONDENT TO GIVE UP TO FIVE ACTIVITIES)

70. Which recreational and free time activities would you prefer to do, or do more often?

71. In order of importance to you which of the following reasons best explain why you don't participate (more) in this activity? (HAND RESPONDENT CARD "B")

(ALLOW RESPONDENT TO GIVE UP TO THREE REASONS.  
RECORD IN EXACT ORDER GIVEN)

FIGURE II-3

DETAILED TRIP INFORMATION QUESTIONS

16. Where did the first (next) day's trip begin? (ORIGIN)

17. Where did you stay that night? (DESTINATION)

18. What type of transportation was used?

19. What type of accommodation was used?

(IF CAMPSITE, ASK QU: 20, 21, 22)

(IF COTTAGE, CHALET, CABIN, HOBBY FARM, ASK QU. 23)

20. What type of area was it? Here is a card to assist you.  
(HAND RESPONDENT CARD "A") (JURISDICTION)

21. Did you sleep in a -

Tent	1	Travel Trailer	4
Tent Trailer	2	Other	
Pickup Camper		(RECORD)	5
(Camperback) Van	3		

22. Was campsite mainly used as: (READ LIST)

- A central place from which you did other things  
associated with the campsite and area around the  
campsite 1

OR

- A means of overnight accommodation while travelling 2

(IF COTTAGE, CHALET, CABIN OR HOBBY FARM, ASK:)

23. Was it:

Owned	1	Rented	3
Leased	2	Other	
		(RECORD)	4

24. How many nights did you stay at that location using that type  
of accommodation?

(REPEAT QU. 16 TO QU. 24 UNTIL ENTIRE TRIP IS ACCOUNTED FOR)

interviewing and recording purposes. A separate trip segment was defined as occurring when either the overnight destination, travel mode and/or accommodation type changed. Each segment was described according to origin, destination, travel mode, accommodation type and number of nights stayed at the destination. Additional information was collected when the accommodation used was either a campsite or a cottage. The number of days during which participation in each recreational activity occurred as well as the number of days during which participation occurred out of province was also asked. The segment by segment type of format used was compatible with the requirements of a standard traffic-engineering data processing package. This section was used to determine whether or not respondents could and would give the detailed information that was asked.

#### 4.4 Recall

One of the most controversial aspects of social survey research is the ability of respondents to recall detailed information accurately. Conventional wisdom suggests that the respondents should not be pushed into giving a more detailed estimate than he or she feels capable of giving. When pushed too far for details, respondents often become tense and less willing to complete the remainder of the interview. Moreover, the analyst is faced with data which appear more precise than is warranted. In order to minimize this problem, the pilot study provided the respondent with the opportunity of giving estimates of the frequency of participation for activities within ranges such as 3-5 days, 20-30 days and so forth. The test was to determine what per cent of interviewees chose to respond within ranges and to compare averages from the mid-points of these upper and lower ranges against averages from respondents giving a single specific response.

#### 4.5 The Drop-Off Questionnaire

In the Birmingham Recreation Survey one respondent was randomly selected within each household and asked a detailed set of questions. All other adult members of the selected household were given less detailed mail-back questionnaires. A high response rate from the mail-back questionnaire resulted in a substantially increased sample size for particular estimates at little additional cost. A similar approach was adopted for the Ontario Recreation Pilot Study.

### 5. STUDY ADMINISTRATION

The final questionnaire design, printing of study materials, field interviewing and supervision, coding and editing, began in May 1972 and was carried out by a private market research firm. The firm, in conjunction with the TORPS survey team, began by reviewing the survey documents. Documents were then modified into a simpler and more conversational language and put into a format which could be easily administered by interviewers.

A pre-test of fifty interviews was undertaken in Waterloo and Toronto. Briefing and debriefing of pre-test interviewers was done jointly by the management of the consulting firm and the TORPS survey team. It was found from the pre-test that interviews lagged when respondents read the cards with response categories. Interviewers also complained that it was difficult to keep the large number of these cards in proper sequence. Consequently, a change was made in questionnaire format so that interviewers would read response categories whenever possible. A second pre-test of thirty interviews using the revised questionnaire followed. Since the second pre-test ran smoothly no further changes were made, and the pilot study of 1,000 interviews began in July, 1972.

The bulk of interviewing was completed by September, 1972. At that time the survey team debriefed many of the interviewers. The interviewers found no major problem with the questionnaire, although they almost unanimously recommended that it be shortened, both in interview length and in number of pages. The interviewers provided detailed comments about reactions by respondents to specific questions and made a great number of specific and extremely helpful recommendations about questionnaire wording.

## 6. RESULTS OF THE TESTS

### 6.1 Free Time Yesterday

Interviewers stated that it was much easier for a respondent to estimate total free time within a time period than it was to estimate time spent doing various categories of activities. The main problem with the second alternative was that the respondent often spent time doing activities from two or more categories simultaneously. When this occurred and the second questioning format was used, the respondent often became confused and frustrated, not knowing whether to double-count his free time or to arbitrarily allocate it to one category or the other. From an analysis point of view double-counting of free time was not acceptable while any type of arbitrary allocation was not desirable. Therefore, a format was adopted that had the respondent estimate the total free time spent in each time period and then list activities done in that time period.

### 6.2 Preference

The interviewers commented that the first two series of preference questions were much more favourably received by the respondents than was the third series. The problem with the third series was that the respondent found it difficult to think of giving up present participation in activities in order to do other 'more preferred' activities. Unfortunately, this response pattern suggested that it would be difficult to obtain valid activity substitution information. Generally, people were more comfortable talking about desired participation levels for activities they were currently doing. For present activities, the listing of constraints was definitely an easier task.

The series of questions in Alternative I was chosen because it met the established criteria more completely. It provided an idea of the magnitude of additional desired participation as well as a measure of the influence of the perceived constraints.

It was decided to separate the preference questions into those about activities currently participated in and those about other activities. An additional set of questions was developed in an attempt to measure substitutability of activities. These questions followed the first activity preference questions in order to reduce the possibility of confusion and frustration.

A pre-test of revised questions was developed for the preference section and was carried out in December of 1972 with a sample of 50 Metropolitan Toronto residents. All interviews were conducted by interviewers with previous experience from the pilot study. The December pre-test indicated that respondents could easily answer the revised preference questions.

### 6.3 Weekend and Vacation Trips

The most pleasant surprise of the pilot study was the willingness of respondents to provide detailed information about their last trip. In fact, the main complaint with the trip related questions was the respondents first had to remember the origin, destination and accommodation information for each segment; next, they had to remember total activity participation; and finally, they had to separate out that participation which occurred out of the province. In effect, respondents recalled their last trip three separate times.

Since detailed information seemed possible to gather and respondents naturally associated activity participation with corresponding trip segments, it seemed feasible to develop a series of questions that would take people through their trip describing, segment by segment, details of origin, destination, travel modes, accommodation, nights spent and activity participation. Such an approach would provide the type of location-specific activity information required but earlier thought impossible to obtain.

Two revised sets of travel questions were then developed. The only difference between the two sets was that the first assigned all activity participation for a segment to the destination, while the second separated participation into 'en route' and 'at destination' components.

The revised travel questions were also tested in the December 1972 pre-test. As a result of the pre-test, Alternative II was selected since it provided more information and was as easily answered as was Alternative I.

### 6.4 Recall

Only about ten per cent of respondents chose to estimate the frequency of activity participation within a range. Generally, the mid-point of answers given within the range was 5 to 10 per cent

higher than the average for the corresponding specific answers. Most of the answers within a range were given for activities which are difficult to define or are participated in frequently, such as recreational driving and walking. Since the option of allowing responses to be given in a range caused few additional problems for interviewers, and provided data that better reflected the respondent's perceived accuracy of recall, it was retained for the main survey.

#### 6.5 Drop-Off Questionnaire

The drop-off questionnaire produced only a 22 per cent response. Because of this poor response rate the procedure was not considered for the main survey.

### 7. RESULTS AND CONCLUSIONS

#### 7.1 Questions Omitted

Certain sets of questions were omitted from the pilot study in order to shorten the interview length of the main survey. These included questions about:

- (a) time spent doing each activity on the last occasion;
- (b) with whom the activity was done;
- (c) organizations to which the respondent belonged;
- (d) access to, and ownership of recreation equipment.

None of these questions were ranked high on the list of required information. It was decided that the answers to the first two questions could be obtained more efficiently from on site interviews. The question about organizational membership was dropped because it was offensive to some respondents and it was also difficult to code. The series of questions about equipment was dropped because respondents found it very repetitive, and because recreational equipment sales data could provide much the same basic information.

Changes in the detailed trip information along with the elimination of the above four types of questions reduced the interviewing time from an average of 70 minutes to approximately 50 minutes. The number of computer cards required for each completed questionnaire was reduced from 38 to 26.

#### 7.2 Specific Conclusions

Specific conclusions reached from the pilot study were:

- (a) It is necessary to train the consultant's management team thoroughly about the objectives of the study and the intended use of each piece of data. Unless this is done it is very

easy for the consultant to adopt procedures or make interpretations contrary to the intent of particular questions.

- (b) All interviewers and field supervisors should be thoroughly trained. Detailed written instructions should be provided. Special instructions are needed to cover very important procedures, such as those associated with sampling.
- (c) It is necessary to understand the chain of command used by the consultant, and to have the prerogative of having field interviewers or supervisors dismissed immediately if they do not follow instructions.
- (d) When a specified number of interviews must be completed within a given month then it is necessary to set up procedures that ensure interviewing has at least begun in each area by a pre-determined date within that month. This will reduce the chances of finding out too late that interviewing in some area has not begun due to lack of time.
- (e) An independent, manual edit of key parts of the questionnaire is required before keypunching.
- (f) A computerized edit routine should be developed and debugged before interviewing begins; such a routine can then be employed immediately on receipt of the keypunched data.
- (g) All coding should be done directly on the source document. This speeds up coding and significantly reduces coding error.
- (h) Participation in many types of recreational and cultural activities is highly associated with age, sex, household income and availability of nearby opportunities.

### 7.3 General Conclusions

A great many tangible and intangible benefits were realized from undertaking the pilot study. For example, the analysis of the data and discussions with the consultant resulted in a one-third reduction in questionnaire length. This reduction meant a cost saving in interviewing time, in keypunching, and in the coding and editing cost of the Ontario Recreation Survey that was equivalent to the pilot study. The questionnaire was moulded into a smooth flowing, more precise and understandable, and more easily administered document. Data analysis of the pilot study suggested guidelines for the main survey sample design. Editing and other quality control procedures developed for use in the pilot study were applied to the Ontario Recreation Survey. Furthermore, results from the pilot study suggested priorities for the analysis of the Ontario Recreation Survey. Probably the most valuable benefit was the experience gained. From the pilot study, government personnel were able to develop very specific tender specifications. If this had not been the case, the cost of obtaining information in the Ontario Recreation Survey would have been greatly increased.

Furthermore, the close involvement of government personnel in all stages of the pilot study and Ontario Recreational Survey assured that the data gathered was specially tailored for the recreation planning needs of the Province.

## CHAPTER III

### SAMPLE DESIGN AND ESTIMATION PROCEDURES

#### 1. SUMMARY

The analysis of the Ontario Recreation Survey (ORS) is based on interviews with 10,230 individuals taken from May 1, 1973 to April 30, 1974, in the Province of Ontario.

The Ontario residents interviewed were selected in a multi-stage, probability sampling survey design. Individuals were excluded from the sample if they were under 12 years of age, lived on an Indian reserve, were residents of an enumeration area with less than 75 households, or were in an institution such as a jail, psychiatric institution, hospital, military base, or university residence.

The sampling design specified one individual in each of 15,000 households to be interviewed. Five attempts were made to contact each sample member with no substitutions made for those not contacted. As a result, only 10,230 of the 15,000 sample members (69%) were interviewed.

For obtaining population estimates of activity participation, case weights were developed. The weights were constructed so that the participation estimates given in the ORS reports for the Ontario population were not confounded by the structure of the sample design and possible errors in data gathering. The weights adjust for area differences in sampling rates, differences between the age and sex distributions of the respondents and Ontario's population, and possible month-to-month differences in response rates (including unusable returns).

The ORS questionnaire asked respondents more detailed information about their most recent weekend and/or vacation trip than about their other trips. To obtain population estimates of trip characteristics from the trips described in detail, trip imputation factors were developed. The trip imputation factors take into account all the information known about the major origins and major destinations of the trips.

#### 2. SAMPLE DESIGN

The basic design of the Ontario Recreation Survey (ORS) is a stratified, multi-stage probability sample of the civilian, non-institutional population of Ontario 12 years of age and older. Overall, residents of more than 97 per cent of Ontario households were eligible for selection. Households found on Indian reserves and in enumeration areas (EAs) having fewer than 75 households were excluded for jurisdictional and practical reasons. Also excluded were institutions (i.e. jails, hospitals and military bases). The respondents to the ORS were contacted over a period of one year with one-twelfth of the sample being allotted to each month. A number of questions were asked about recreational activities, with varying recall periods from the date of the interview.

Geographic stratification was used in the ORS to create homogeneous units in each stratum in order to minimize the variance of each variable of interest. Theoretically, the process of stratification should be based on some well-defined characteristics in relation to the objective of the study. In this way, accurate estimates within a stratum, adequate representation of special interest groups, and minimum within-stratum variance can be achieved. Stratification is also used to facilitate accurate estimates for smaller geographical areas which are of particular interest (Kish, 1965).

For the ORS, the Province of Ontario was stratified for both of the above reasons. An analysis of data from the pilot study (Chapter II) and other sources such as the CORD Big 8-M surveys indicated that characteristics most associated with a person's recreation and travel behaviour are age, sex, household income, and proximity to recreational supply. Due to a lack of up-to-date socio-economic census data at the time of the sample design, the strata of the ORS were delineated on the basis of the geographic distributions of population and recreation supply only. At the first stage of stratification, seven strata were created. The second stage of stratification was based on the degree of urbanization. At this stage, the five strata that included municipalities with populations both greater than and less than 50,000 were further divided into large urban and non-large urban sub-strata. This additional split was thought necessary to reflect more localized supply-demand relations. Of the seven strata created, five had large urban and non-large urban sub-strata and two had no sub-strata. (Ontario Recreation Survey, Survey Documents, 1973).

## 2.1 Sample Allocation

The total sample size of the ORS was set at 15,000 persons (see Table III-1). This sample size was determined by dividing available budget by expected unit cost per questionnaire, based on estimates from the pilot study.

A major objective in designing the ORS was to provide reliable estimates at the stratum level. This strategy contrasts with most surveys where the primary thrust is to maximize total sample reliability. The need for reliability at the stratum level was emphasized in the sample design of the ORS because experience had indicated that most major planning decisions are made at the sub-provincial level.

For the ORS, the overall sample of 15,000 was allocated to each of the seven major strata on the basis of expected minimum cell frequency for the majority of important characteristics. Important characteristics were considered to be:

- (a) proportion of respondents who participated in various recreational activities;
- (b) proportion of respondents who took a weekend and/or vacation trip;
- (c) average number of days of participation in the various recreational activities;

TABLE III-1

SAMPLE ALLOCATION

<u>Strata</u>	<u>1971 Census Estimates For The ORS Target Population</u>		<u>Sample Allocation</u>	
	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>
1. <u>East</u>	9.54	555,185	10.00	1,500
Ottawa	4.08	237,835	4.0	600
St. Lawrence Area				
Non-large Urban	5.45	317,350	6.0	900
2. <u>East Lake Ontario</u>	6.07	353,585	10.00	1,500
Kingston-				
Peterborough	1.59	92,945	2.4	360
Non-large Urban	4.47	260,640	7.6	1,140
3. <u>Western Lake Ontario</u>	21.72	1,263,815	20.00	3,000
Large Urban	12.27	714,130	11.2	1,680
Non-large Urban	9.44	549,685	8.8	1,320
4. <u>Metro Toronto</u>	28.18	1,639,840	22.00	3,300
5. <u>South-western Ontario</u>	19.45	1,131,605	18.00	2,700
Large Urban	9.17	533,685	8.4	1,260
Non-large Urban	10.27	597,920	9.6	1,440
6. <u>Georgian Bay Area</u>	5.83	339,025	10.00	1,500
7. <u>Northern Ontario</u>	9.22	536,425	10.00	1,500
Large Urban	4.27	248,315	4.8	720
Non-large Urban	4.95	288,110	5.2	780
ONTARIO	100.00	5,819,480	100.00	15,000

(d) average number of weekend and/or vacation trips taken.

Assuming a response rate of approximately 70 per cent, it was estimated that a sample size of 1,500 for each of the seven main strata would, in most cases, yield acceptable cell sizes.

## 2.2 Sampling Scheme

A multi-stage sampling scheme was used. In each stratum, sampling involved the selection of enumeration areas (EAs), then households within these EAs, and finally the selection of a person in each household. Each person sampled represented a number of others in that stratum.

Due to the manner of sampling, the sampled units were located in relatively small geographic areas, a scheme which decreased travel costs considerably. In detail, the sampling scheme involved the selection of people within households within enumeration areas within strata.

### 2.2.1 Enumeration Areas

Enumeration areas were the first stage units. A simple random sample of EAs was selected with replacement, for each month for each stratum.

### 2.2.2 Households

Households were the second stage units. The households within each selected EA were chosen by the interviewers on the basis of the following instructions:

- (a) Take EA map and overlay a coordinate grid system;
- (b) Randomly select two numbers to fix a point on the grid system;
- (c) Take the road intersection closest to the random point;
- (d) Select a random number 'd' between one and five and begin walking down the intersection towards the random point;  
Select the  $d^{\text{th}}$  household, going around the block if necessary;
- (e) Select every third household starting from the  $d^{\text{th}}$  household in rural areas and every fifth household in urban areas until five households have been selected. No substitution of households is permitted.

### 2.2.3 Persons 12 Years of Age and Over

Persons 12 years of age and over were the third stage units of selection. Interviewers used the following instructions in selecting a person (12 or over) within each household:

- (a) List all members of the household along with their age, sex, and relationship to the head of the household, starting with the eldest;

- (b) Draw a line separating the household members under 12 years old from those members of the household who are 12 years of age and older;
- (c) Put an X beside each individual temporarily away at school even if that person happens to be home for the weekend and omit him from selection;
- (d) The number between one and ten, given in red, in Section A, page 2 of the questionnaire, indicates which person is to be interviewed;
- (e) If the given random number is less than the total number of eligible household members, count down to that number and obtain the selected person. If that number is greater than the total number of eligible household members, keep recounting down the list of household members until arriving at that number and select the corresponding person.

Up to five calls were made in order to contact the selected household and selected respondent in the household. In each case no substitution was allowed for either household or respondent.

### 2.3 Survey Period

The data collection was carried out over a period of one year (i.e. May 1, 1973 to April 30, 1974). One-twelfth of the sample was selected independently and with replacement (for each month of interviewing of this 12-month period). Within each month every attempt was made to distribute completed interviews evenly among each of the weeks. Within each week one-seventh of the interviews were scheduled for each of the days from Tuesday to Saturday while the remaining two-sevenths were allotted for Monday. A double quota of interviews was attempted on Mondays as no interviewing took place on Sundays.

In the ORS questionnaire different recall periods were used for different questions. The recall periods varied starting from the date of the interview. The four recall periods used were: the past twelve months; the past three months; the most recent occasion in the past three months; and the day before the interview (or the day two days previous to the day of interviewing for some respondents on Mondays).

Interviewing throughout the year was deemed necessary to recognize that free time and travel behaviour varies throughout the year, to investigate the general problem of how answers to preference questions are related to season of interview and to take into account the desirability of restricting most detailed estimates, including all frequency of participation estimates, to a three-month recall. It has been shown that a three-month recall period is an efficient compromise between cost (number of interviews) and variance of estimates as influenced by recall (Ashraf et al, 1971).

### 3. DESIGN ASSUMPTIONS\*

The sample design of the ORS, due to practical and budgetary reasons, incorporated certain procedures that do not lend themselves to a probabilistic estimation procedure. This section is devoted to a discussion of these procedures and the assumptions made in order to develop an estimation procedure.

#### 3.1 Household Selection

This method, as described in Section 2.2.2, approximates a systematic random selection of households. A truly systematic random method requires a sequential list of the total number of units, and the number of units to be selected. This information is used to determine the sampling interval, a random start within the sampling interval and the corresponding probability of selection.

The ORS method of sampling households is incomplete for two reasons: first, the total number of households was not available; second, the 26th and following households in each EA had no probability of selection. Therefore, the method does not lend itself to the calculation of probabilities of household selection. A number of choices were considered to determine the probability of selecting a household. It was decided to assume that households would be selected randomly from the total households as of the 1971 Census. Changes in population between 1971 and 1973 were adjusted for by a population slippage factor.

##### 3.1.1 Estimate of Variance

The estimate of variance was derived pursuant to the sample design. The design can be viewed as a selection of two independent replicates of the first-stage units (EAs) with replacement. The EAs were selected through a simple random sample with replacement. In this way they could be assigned to two pseudo-replicates by any random method. This procedure allows development of a variance estimation procedure, assuming a replicated sample design of the first stage units. This assumption facilitates computation of the estimates of variance.

### 4. WEIGHTS

The following subscripts and notations are defined for the development of the estimation procedure:

r = Replicate  
m = Month  
h = Stratum  
i = Enumeration Area  
j = Household  
k = Person  
a = Age-sex group of the selected person  
N = Population count  
n = Sample count

---

\*Sub-sections 3 through 5 were developed by The Household Surveys Development staff of Statistics Canada.

Then  $rm_{x_{hijka}}$  = 1 if the  $k^{th}$  person is in the  $a^{th}$  age-sex group,  
 $j^{th}$  household,  $i^{th}$  EA,  $h^{th}$  stratum,  $m^{th}$  month,  
 $r^{th}$  replicate  
= 0 otherwise

$rm_{y_{hijka}}$  = a characteristic of the  $k^{th}$  person

$S_h$  = number of selected households in stratum  $h$

$S'_h$  = number of households interviewed in stratum  $h$

$S^*_h$  = number of households that could not be interviewed  
in stratum  $h$

#### 4.1 Basic Weights

The basic weight (i.e. the inverse of the probability of selection, associated with each selected person, is defined as follows:

$$rm_{w_{hijk}} = \frac{N_h}{n_h} \cdot \frac{N_{hi}}{n_{hi}} \cdot \frac{1}{\pi_{hijk}}$$

where  $N_h$  = total number of EAs in the  $h^{th}$  stratum

$N_{hi}$  = total number of households in the  $i^{th}$  EA

$n_h$  = number of EA selected from the  $h^{th}$  stratum

$n_{hi}$  = number of households selected from the  $i^{th}$  EA

$\pi_{hijk}$  = probability of selection of the  $k^{th}$  person from the  
 $j^{th}$  household,  $i^{th}$  EA and  $h^{th}$  stratum

$rm_{w_{hijk}}$  = the weight for the  $k^{th}$  person selected from the  $j^{th}$   
household,  $i^{th}$  EA,  $h^{th}$  stratum,  $r^{th}$  replicate in  
 $m^{th}$  month.

Where  $\pi_{hijk}$  is the probability of selection of a person 12 years of age and over within a selected household, these probabilities are not equal and are calculated as follows:

$N'_{hij}$  = number of eligible household members

$d$  = the given random number between one and ten

$k$  = the serial number of the selected person on the list,

$$1 \leq k \leq N'_{hij}$$

According to the selection method then,

$$k = d \text{ if } d \leq N'_{hij}$$

$$\text{and } k = d \pmod{N'_{hij}} \text{ if } d > N'_{hij}$$

Therefore, the given 'd' was selected uniformly between 1 and 10 and for  $N'_{hij}$ , there exists non-negative integers (a,b) such that

$$10 = aN'_{hij} + b, \quad 0 \leq b \leq N'_{hij}$$

we have

$$\pi_{hijk} = \begin{cases} \frac{a+1}{10}, & k \leq b \\ \frac{a}{10}, & k > b \end{cases}$$

for  $k = 1, 2, \dots, N'_{hij}$ ,  $N'_{hij} \leq 10$

Note:

$$(a) \sum_k \pi_{hijk} = b \left( \frac{a+1}{10} \right) + (N'_{hij} - b) \frac{a}{10} = 1$$

$$(b) \pi_{hijk} > 0 \text{ for } 1 \leq k \leq 10$$

$$\pi_{hijk} = 0 \text{ for } k > 10$$

$$\text{If } N'_{hij} \geq 10, N'_{hij} = 10$$

$$(c) \pi_{hijk} \text{ are all equal if, and only if } b = 0.$$

The exact probabilities are given in Table III-2.

#### 4.2 Adjustment of Weights

The basic weights derived from the design assumptions are adjusted to compensate for the procedural departures noted above, the non-response rate, and the out-of-date survey frame. The adjustments made are discussed in this section.

TABLE III-2

PROBABILITIES OF PERSON SELECTION

<u>Number of Eligible Household Members</u>	<u>Selected Person</u>	<u>Probability</u>
1	1	1
2	1,2	0.50
3	1	0.40
	2,3	0.30
4	1,2	0.30
	3,4	0.20
5	1,2,3,4,5	0.20
6	1,2,3,4	0.20
	5,6	0.10
7	1,2,3	0.20
	4,5,6,7	0.10
8	1,2	0.20
	3,4,5,6,7,8	0.10
9	1	0.20
	2,3,4,5,6,7,8,9	0.10
10	1,2,3,...,10	0.10

#### 4.2.1 Non-Response

The response rate for the ORS was approximately 68 per cent. This was achieved at the expense of making up to five calls to interview a selected person, if necessary. Some non-response was inevitable due to the interviewer's inability to reach the respondent, the respondent's refusal, or other such reasons. Adjustments in weights of the respondents are necessary to compensate for the non-respondents. Compensation is achieved by distributing the weights of the non-respondents equally among the respondents. As a result, the interviewed respondents represent slightly more persons than the design intended. This technique is applied under the assumption that the characteristics of the non-respondents are similar to those of the respondents. This adjustment is carried out at the stratum, month and replicate level, and the adjusted weight  $W'$  is defined as follows:

$$rm_{W'}_{hijk} = rm_{W}_{hijk} \cdot \frac{S_h}{S'_h}$$

#### 4.2.2 Age-Sex Ratio

In view of the equal probability of selection of EAs, exclusion of EAs with less than 75 households, and the selection of households without the field listing, the population estimated from the survey and the actual population in a particular group may differ. In such a situation, where actual information (other than the survey itself) is available, such as the 1971 Census of Canada, the weights may be adjusted to reduce the mean square error of the estimate and thus increase its reliability. For the ORS this adjustment is achieved by the use of ratio estimation, wherein the weights are adjusted by multiplying them by the ratio of the independent total of a characteristic to the total estimated from the survey. The characteristic in this case is the age-sex distribution of the population of Ontario. Although the age-sex distribution for 1973 is not available at the stratum level, it is assumed that the proportion of population in the ten age-sex groups had not changed significantly since 1971 (see comparison in Table III-3). Ratio estimation is used to adjust the weights so that the estimated proportions agree with the proportions from the 1971 census. This adjustment is made for each month for each of the age-sex groups for each stratum as follows:

Let  $P_{71ha}$  = 1971 census population in age-sex group 'a'

$\hat{P}_{71ha}$  = ORS estimate

Since  $\frac{P_{71a}}{P_{71}} = \frac{P_{73a}}{P_{73}}$ , we assume that

$$\frac{P_{71ha}}{P_{71h}} = \frac{P_{73ha}}{P_{73h}}$$

TABLE III-3  
COMPARISONS OF AGE-SEX RATIOS

<u>Age-Sex Group</u>	1971*		1973**	
	<u>Total</u> ( <u>'000</u> )	<u>Per Cent</u>	<u>Total</u> ( <u>'000</u> )	<u>Per Cent</u>
<u>Male</u>				
12-19	600.4	10.09	629.4***	10.08
20-34	863.7	14.51	931.3	14.91
35-49	713.9	11.99	718.4	11.50
50-64	495.3	8.32	524.4	8.39
65+	275.1	4.62	283.6	4.54
<u>Female</u>				
12-19	578.1	9.71	603.3***	9.66
20-34	856.1	14.38	924.0	14.79
35-49	698.8	11.74	697.9	11.17
50-64	509.5	8.56	542.7	8.69
65+	361.0	6.07	392.3	6.28
	<u>5,951.9</u>	<u>100.00</u>	<u>6,247.3</u>	<u>100.00</u>

---

Source: \*1971 Census of Canada, Catalogue No. 92-715, Vol. 1  
Part 2 (Bulletin 1-2-3) April 1973.

\*\*Statistics Canada, Catalogue No. 91-202, Annual,  
March, 1974. Note that ORS population estimates  
were made for October 1, 1973. See Table III-10.

\*\*\*These totals are derived assuming that the proportion  
of people in age group 10 and 11 have remained the  
same from 1971 to 1973. This was necessary for  
comparison, since proportions are available in five-  
year age groups only.

Now 
$$\frac{\hat{p}_{73ha}}{\hat{p}_{73h}} \rightarrow \frac{p_{73ha}}{p_{73h}}$$

Given the above assumption, we have

$$\frac{\hat{p}_{73ha}}{\hat{p}_{73h}} \rightarrow \frac{p_{71ha}}{p_{71h}}$$

and we define  $A_{73ha}$  the age-sex ratio correction factor as

$$A_{73ha} = \frac{\hat{p}_{73h}}{p_{71h}} \cdot \frac{p_{71ha}}{\hat{p}_{73ha}}$$

Where 
$$\hat{p}_{73ha} = \frac{1}{2} (\sum_{ijk} 1m_{W'}_{hijk} 1m_{X_{hijka}} + \sum_{ijk} 2m_{W'}_{hijk} 2m_{X_{hijka}})$$

and 
$$\hat{p}_{73} = \sum_{ha} p_{73ha}$$

Hence, the weight after adjustment by the age-sex ratio is as follows:

$$rm_{W'}_{hijk} = rm_{W'}_{hijk} \cdot A_{73ha}$$

#### 4.2.3 Population Slippage

Population slippage is the difference between the census population and that estimated from the survey. It can be caused by several factors, such as poor listing of sample areas (no listing in case of ORS), increased households due to multiple dwellings, persons missed within households, etc. Ratio estimation is employed to adjust the weights in much the same fashion as described above, except that the adjustment is done at the provincial level.

Let  $p_{73a}$  = 1973 census projection for age-sex group 'a'

$$\hat{p}_{73a} = \text{ORS estimate}$$

When we define  $B_{73a}$ , the slippage correction factor as

$$B_{73a} = \frac{p_{73a}}{\hat{p}_{73a}},$$

$$\text{where } \hat{p}_{73a} = \sum_h \frac{1}{2} \left( \sum_{ijk} 1m_{W''}{}_{hijk} 1m_{X_{hijka}} + \sum_{ijk} 2m_{W''}{}_{hijk} 2m_{X_{hijka}} \right)$$

The final weight then is

$$rm_{W^*}{}_{hijk} = rm_{W''}{}_{hijk} \cdot B_{73a}$$

#### 4.3 Estimate of Totals

The estimate of the total of a characteristic is defined as follows:

$$\hat{Y} = 1/12 \sum_m \sum_h \left\{ \frac{1}{2} \left( \sum_{ijk} 1m_{W^*}{}_{hijk} 1m_{Y_{hijk}} + \sum_{ijk} 2m_{W^*}{}_{hijk} 2m_{Y_{hijk}} \right) \right\}$$

The  $\hat{Y}$  refers to a typical 12-month period of the 24-month period covered by the survey or a typical three-month period of the 15-month period covered by the survey, depending on the characteristic under study.

In order to estimate the proportion  $\hat{Y}$  of the persons who swam at least once, we have:

$$\hat{Y} \text{ (proportion)} = \frac{\hat{Y}}{\tilde{p}_{73}}$$

$$\text{where } \tilde{p}_{73ha} = \frac{1}{2} \left( \sum_{ijk} 1m_{W^*}{}_{hijk} 1m_{X_{hijk}} + \sum_{ijk} 2m_{W^*}{}_{hijk} 2m_{X_{hijk}} \right)$$

$$\text{and } \tilde{p}_{73} = \sum_{ha} \tilde{p}_{73ha}$$

#### 4.4 Estimate of Variance

The estimate of variance in a stratum of a characteristic is defined as:

$$\hat{V}(\hat{Y}_h) = \frac{1}{4} (1\hat{Y}_h - 2\hat{Y}_h)^2$$

where  $1\hat{Y}_h$  = estimate of the characteristic 'Y' from replicate one

$$= 1/12 \sum_m \left\{ \sum_{ijk} 1m_{W^*}{}_{hijk} 1m_{Y_{hijk}} \right\}$$

$$\begin{aligned} \hat{Y}_h^2 &= \text{estimate of the characteristic 'Y' from replicate two} \\ &= 1/12 \sum_m \left\{ \sum_{ijk} 2m_{W^*}^{hijk} 2m_Y^{hijk} \right\} \end{aligned}$$

The variance of the provincial estimate is:

$$\hat{V}(\hat{Y}) = \sum_h \hat{V}(\hat{Y}_h)$$

In this method of variance estimation, the pseudo-replicates are of equal sizes. The ORS design is not consistent in this respect (i.e. some strata have an even number of EAs in the sample, while others do not).

If both replicates contain an equal number of EAs, they are used as is for variance calculations. If the replicates are of unequal size, however, one EA of the larger replicate is chosen at random and assigned to the smaller replicate. For example, if the replicates are of sizes  $n$  and  $n + 1$ , one EA from the replicate of size  $n + 1$  is chosen at random and assigned to that of size  $n$ ; the result is two replicates both of size  $n + 1$  (with one EA included twice, once in each replicate).

In general, the method of using replicates may tend to over-estimate variance. However, duplicating some EAs may depress variance. Therefore, the resulting variance estimates, in our view, are thought to be relatively precise.

#### 4.5 Co-efficient of Variation

The co-efficient of variation (CV) of a characteristic  $Y$  is defined as the standard deviation divided by the mean, or

$$CV(\hat{Y}) = \sqrt{\frac{\hat{V}(\hat{Y})}{\hat{Y}^2}}$$

#### 5. LIMITATIONS

The method of estimation and specification outlined has limitations that are not readily apparent and that cannot be enumerated fully in advance. These limitations may be described in two parts. First, the assumptions for design and the method of estimation will have a general effect on all estimates and tabulations. Second, due to the complexity of possible cross-tabulations, estimates of the characteristics may not agree in every case.

The former limitations are more of a necessity, and their effect may be measured by means of alternate assumptions. The latter limitations are also due in part to design but relate more to the subject matter and the subsequent analysis of data.

## 6. INSTITUTING THE ESTIMATING PROCEDURE

In general, the case weights were computed as defined in Section 4, 'Weights'. The major tables used to create the weights are presented in this section along with deviations from the weighting scheme found necessary to operationalize it. A demonstration of the creation of the weight of one case (i.e. one completed interview) may be found in Appendix A.

### 6.1 Replicates

Two pseudo-replicates were set up in each month for each stratum (before calculating weights for the ORS). Replicates were set up at the EA level. In each month, one-half of the EAs in the sample design for each stratum were assigned randomly to replicate one; the other half to replicate two.

When the replicates were set up, problems arose because in some months, in some strata, interviewing was done in an odd number of EAs as can be seen in Table III-4. For example, 15 EAs were in the sample design each month in the St. Lawrence stratum. This problem was overcome by duplicating the interviews for one EA in each month in the stratum in which an odd number of EAs were sampled. This caused both replicates to have an equal number of EAs. The EA to be duplicated was chosen at random. Thus, in the St. Lawrence stratum one EA was duplicated each month so that each replicate contained eight EAs

$$\text{(i.e. } \frac{15 + 1}{2} = 8 \text{)}$$

Creating the replicates using EAs resulted in 261 duplicated cases. Each of these cases was considered a part of replicate one or replicate two. To differentiate duplicated cases from other cases they are labelled on the tape as replicate three when part of replicate one, and labelled as replicate four when part of replicate two. The records duplicated constitute only about 2-1/2 per cent of the ORS data and therefore should cause little problem in most analyses.

### 6.2 Basic Weights and Non-response Adjustment

Interviews were completed for almost 69 per cent of the sample (see Table III-5). Less than 1 per cent of the completed interviews were discarded as unusable, leaving a response rate of about 68 per cent of the sample (i.e. non-response rate of about 32%). Over 76 per cent of the completed interviews were obtained either on the initial attempt to contact a respondent or on the first callback (see Table III-6).

Before calculations of the non-response adjustment factors were made, callbacks were examined as to how they interact with activity

TABLE III-4

NUMBER OF INTERVIEWS ALLOCATED PER MONTH PER STRATUM

<u>Strata</u>	<u>Number of Enumeration Areas</u>	<u>Number of Interviews</u>
1. Ottawa	10	50
2. St. Lawrence Area Non-large Urban	15	75
3. Kingston - Peterborough	6	30
4. East Lake Ontario Non-large Urban	19	95
5. Western Lake Ontario Large Urban	28	140
6. Western Lake Ontario Non-large Urban	22	110
7. Metro Toronto	55	275
8. South-western Ontario Large Urban	21	105
9. South-western Ontario Non-large Urban	24	120
10. Georgian Bay Area	25	125
11. Northern Ontario Large Urban	12	60
12. Northern Ontario Non-large Urban	13	65
	<hr/> 250	<hr/> 1,250

TABLE III-5

RESULTS OF ATTEMPTED INTERVIEWS  
IN ONTARIO RECREATION SURVEY

	<u>Per cent of Sample</u>
Completed interview	68.8
Respondent refusal	5.1
Household refusal	8.4
Respondent not at home	9.1
No one at home	4.5
Can't interview - language problem	1.7
Can't interview - respondent senile, mentally retarded, etc.	0.6
Other	1.8
	<hr/>
	100.0

TABLE III-6

COMPLETED INTERVIEWS BY CONTACT NUMBER

<u>Call Back When Interview Completed</u>	<u>Per Cent of Completed Interviews</u>
Initial contact attempt	44.9
Callback 1	31.9
Callback 2	14.2
Callback 3	6.1
Callback 4	2.9
	<hr/>
	100.0

TABLE III-7

PARTICIPATION RATES BY AGE-SEX CLASS BY CONTACT NUMBER  
(UNWEIGHTED DATA)

Attempt at Interview																
Age	Sex	Contact No. 1			Contact No. 2			Contact No. 3			Contact No. 4			Contact No. 5		
		% of Completed Interviews	Average Activities Past 12 mon.	Average Occasions Past 3 mon.	% of Completed Interviews	Average Activities Past 12 mon.	Average Occasions Past 3 mon.	% of Completed Interviews	Average Activities Past 12 mon.	Average Occasions Past 3 mon.	% of Completed Interviews	Average Activities Past 12 mon.	Average Occasions Past 3 mon.	% of Completed Interviews	Average Activities Past 12 mon.	Average Occasions Past 3 mon.
12-19	M	40	19.1	102.7	39	19.6	109.1	13	20.5	122.7	5	21.7	101.0	3	21.8	112.6
	F	43	16.3	84.8	37	17.1	92.4	13.	18.8	98.6	5	14.4	73.1	2	15.7	69.5
20-34	M	38	13.2	49.8	34	13.9	51.2	16	14.9	51.0	8	14.3	57.0	4	14.7	49.2
	F	51	10.7	41.8	29	12.0	42.5	12	11.8	41.8	5	10.8	37.4	3	13.6	38.8
35-49	M	41	10.1	38.9	36	10.7	37.1	13	11.3	36.9	7	11.5	50.9	3	10.6	31.0
	F	52	8.8	34.6	30	9.5	34.7	12	10.0	41.5	4	9.4	36.6	2	11.4	42.0
50-64	M	49	6.7	27.1	32	8.0	31.3	13	8.5	33.6	4	8.5	36.0	2	12.2	58.6
	F	58	6.0	24.7	26	6.7	30.1	10	6.9	30.5	4	7.9	32.1	2	7.1	34.3
65+	M	66	4.4	27.1	24	5.2	35.3	6	5.8	45.8	3	3.3	14.8	1	7.8	41.0
	F	65	3.4	17.0	23	3.7	20.8	7	4.4	23.6	4	4.5	24.2	1	10.3	59.7
			9.4	40.3		11.3	48.1		12.1	50.8		11.5	47.5		13.3	49.9

participation. The differing levels of activity participation of respondents contacted during different attempts at interviewing are shown in Table III-7. For unweighted respondents, Table III-7 shows the average number of activities participated in during the past 12 months and the average number of total occasions of participation in 73 activities in the past three months. For most age-sex categories, the average number of days participated in is much the same for the respondents contacted on all attempts. The same is true for average number of activities participated in during the past 12 months in that this average number does not vary much across the contact attempts of most age-sex categories. The variability, however, between different ages and sexes in average participation rates is obvious from the columns of Table III-7. One can see how age and sex override any influence of contact attempt on participation rates by comparing the variability of the columns with that in the rows.

The influence of age, sex and contact attempt on participation were tested for a few activities using regression analysis. As demonstrated in Table III-4, contact attempt was found to have no significant relationship to participation rates beyond the influence of age and sex. The influence of age and sex is accounted for by the age-sex ratio in the weighting scheme. Non-response adjustment treats all respondents in each month and in each stratum similarly and does not weight respondents contacted on later attempts heavier than those contacted on earlier ones.

### 6.3 Age-Sex Ratio Adjustment

The age-sex ratio was computed for ten categories (i.e. five age categories for each sex) in each month for each stratum. The age categories used were: (a) 12 to 19; (b) 20 to 34; (c) 35 to 49; (d) 50 to 64; and (e) 65 years and older. The 1971 census population of stratum, divided into the age-sex categories, is presented in Appendix B-1 to B-3. Excluded from the census populations of Appendix B-1 to B-3 are enumeration areas with less than 75 households, Indian reserves, and institutions (i.e. jails, hospitals, military camps).

The question arose as to whether the age-sex ratios should be computed once for each stratum, or separately for each month of interviewing in each stratum. The variability of response rates from month to month within each stratum is obvious from Table III-8. After considering this variability, it was decided to compute age-sex ratios for each month in each stratum. Month to month variability was also a major reason for computing the basic weights and non-response factors separately for the replicates of each month and each stratum.

Difficulties were encountered in computing age-sex ratios for some age-sex categories since a few months in some strata did not contain responses. Except for stratum three (i.e. Kingston-Peterborough), categories containing no respondents were minimal. Out of 1440 age-sex categories (i.e. ten categories in each of 12 strata and 12 months), only 37 were empty; 22 of these 37 were in Kingston-Peterborough. The stratum of Kingston-Peterborough had the lowest number of interviews per month (i.e. smallest sample size) of all strata (Table III-3), so having it contain the most categories with no respondents was not surprising.

TABLE III-8

PER CENT RESPONSE BY STRATA BY MONTH

<u>Strata</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
1. Ottawa	94	74	70	64	98	74	64	60	84	98	60	26
2. St. Lawrence Area Non-large Urban	92	87	88	87	91	97	84	88	85	81	92	65
3. Kingston-Peterborough	70	83	60	90	47	60	47	33	63	97	67	50
4. East Lake Ontario Non-large Urban	95	87	84	79	81	80	77	86	78	94	100	87
5. Western Lake Ontario Large Urban	59	68	70	68	69	68	71	50	53	61	56	59
6. Western Lake Ontario Non-large Urban	73	78	73	62	65	74	74	71	71	74	67	71
7. Metro Toronto	43	50	50	49	66	54	54	62	47	50	41	34
8. South-western Ontario Large Urban	73	78	72	67	80	64	71	54	72	74	75	48
9. South-western Ontario Non-large Urban	83	63	76	67	92	85	53	79	83	87	79	75
10. Georgian Bay Area	77	82	69	66	52	80	79	72	76	65	42	54
11. Northern Ontario Large Urban	73	83	88	65	93	63	82	62	75	78	67	68
12. Northern Ontario Non-large Urban	92	71	80	74	94	80	68	74	91	74	58	98

AGGLOMERATED AGE-SEX CATEGORIES USED FOR WEIGHTING PURPOSES

<u>Strata</u>	<u>Month</u>	<u>Sex</u>	<u>New Categories Created</u>	<u>Old Categories Combined</u> <sup>1</sup>	
1	2	Male	20-49	20-34	<u>35-49</u>
1	4	Male	50 and older	50-64	<u>65+</u>
1	9	Male	50 and older	50-64	<u>65+</u>
1	3	Female	12-34	<u>12-19</u>	20-34
1	12	Female	12-34	<u>12-19</u>	20-34
3	1	Male	50 and older	<u>50-64</u>	65+
3	3	Male	50 and older	50-64	65+
3	4	Male	50 and older	<u>50-64</u>	65+
3	5	Male	12-49	<u>12-19</u>	<u>20-34</u> 35-49
3	5	Male	50 and older	<u>50-64</u>	65+
3	6	Male	20-49	20-34	<u>35-49</u>
3	7	Male	12-49	<u>12-19</u>	20-34 <u>35-49</u>
3	7	Male	50 and older	<u>50-64</u>	65+
3	8	Male	12-49	<u>12-19</u>	20-34 <u>35-49</u>
3	8	Male	50 and older	50-64	<u>65+</u>
3	9	Male	12-34	<u>12-19</u>	20-34
3	9	Male	50 and older	50-64	<u>65+</u>
3	11	Male	12-34	<u>12-19</u>	20-34
3	12	Male	50 and older	50-64	<u>65+</u>
3	3	Female	20-49	20-34	<u>35-49</u>
3	3	Female	50 and older	50-64	<u>65+</u>
3	4	Female	50 and older	<u>50-64</u>	65+
3	8	Female	12-34	<u>12-19</u>	20-34
3	12	Female	12-34	<u>12-19</u>	20-34
11	1	Male	50 and older	50-64	<u>65+</u>
11	4	Male	50 and older	50-64	<u>65+</u>
11	5	Male	12-34	<u>12-19</u>	20-34
11	8	Male	50 and older	50-64	<u>65+</u>
11	10	Male	50 and older	50-64	65+
11	11	Male	50 and older	<u>50-64</u>	65+
11	1	Female	50 and older	<u>50-64</u>	65+
11	7	Female	50 and older	50-64	<u>65+</u>
12	2	Male	50 and older	<u>50-64</u>	65+
12	10	Male	12-34	<u>12-19</u>	20-34

<sup>1</sup>Categories with 0 cases are underlined.

Larger categories were constructed in some months and in some strata to compensate for lack of respondents in some age-sex categories. The larger categories were made by aggregating on the age variable (see Table III-9).

The first line of Table III-9 shows that there were no male respondents of age 35-49 sampled from stratum one (Ottawa) during month two (February). Therefore, a larger age category of 20 to 49 years was constructed by combining the age categories 20 to 34 and 35 to 49 years. The other aggregated categories of Table III-9 were created similarly.

The variables readily available for agglomerating categories, so that all categories had some respondents, appeared to be age, sex, month and strata. Age was chosen. The desire to have regional estimates of activity participation ruled out aggregating the strata and the seasonal nature of recreation detracted from combining categories across months. In agglomerating, however, some difficulty arose in choosing between age and sex.

The difference in total activity participation from one age group to the next is greater than the difference in participation between the sexes within an age category (see Table III-7). The larger differences between age categories rather than between sex categories implies that agglomeration should be done across sex categories. Preliminary analysis of the ORS, however, showed that the sexes tend to have greatly varying participation rates for some activities, such as hunting and fishing. The desire not to mask these differences led to agglomerating the age categories rather than the sex categories.

#### 6.4 Population Slippage

The population slippage factors were computed for each of the ten age-sex categories across the Province (i.e. at the provincial, not stratum, level). The manner in which population slippage was computed assumes that age-sex classes grow at the same rate in all areas of the Province.

For the purpose of computing population slippage factors, estimates of the Ontario population of October 1, 1973 were found for the ten age-sex categories. October 1, 1973 was chosen since it is the date closest to the middle of the 12 months of interviewing for the ORS for which a Statistics Canada estimate of the total Ontario population is available. (Estimates of the total population of Ontario are provided quarterly by Statistics Canada Bulletin 11-001). The closest date for estimates of the age-sex categories is, however, June 1, 1973. (Statistics Canada Bulletin 91-202 provides annual estimates of the Ontario population broken down into age and sex categories). Population estimates for all ten age-sex categories for October 1, 1973 were constructed by assuming that all categories grew at the same rate between June 1 and October 1, 1973.

It was also assumed that the same percentage of the Ontario population is excluded in 1973 as was excluded from the 1971 census due to being in EAs of under 75 households, jails, Indian reserves, institutions.

TABLE III-10

ONTARIO POPULATION ESTIMATES USED IN ORS<sup>1</sup>

<u>Age-Sex Category</u>	<u>June 1, 1971 Census</u>	<u>October 1, 1973 Census Estimates<sup>2</sup></u>
Males:		
12-19 years	590,270	626,745
20-34 years	844,970	916,840
35-49 years	701,785	710,665
50-64 years	484,380	515,980
65 and over	256,955	266,700
Females:		
12-19 years	568,490	600,430
20-34 years	842,030	914,515
35-49 years	691,360	694,870
50-64 years	500,980	537,030
65 and over	338,270	361,380

<sup>1</sup>Excluded are EAs with less than 75 households, Indian reserves and institutions.

<sup>2</sup>Estimates for ORS as described in text.

These two assumptions were used to compute the figures in the second column of Table III-10 from those in the first column. The June 1, 1973 estimate of each age-sex category is multiplied by two factors to compute October 1 estimates.

- (a) The per cent of the Ontario population (in this age-sex category) not excluded (due to reasons given previously) from the 1971 census estimates of ORS population.
- (b) The ratio of Statistics Canada estimates of the total Ontario population on October 1, 1973 over the corresponding total for June 1, 1973.

Thus, the resulting population slippage factors account for the growth of the Ontario population between June 1, 1971 and October 1, 1973. The population estimates for October 1, 1973 resulting from the above method and assumptions are similar to other estimates computed using slightly different assumptions.

## 7. TRIP IMPUTATION FACTORS

Trip imputation factors are used to estimate detailed information about all trips. These factors are necessary since detailed information is only directly available about the most recent weekend and vacation trips. Information from the most recent trips is projected to all trips by assuming that the characteristics of all trips going to each destination from each origin are the same as that of the most recent weekend and vacation trips.

Separate trip imputation factors are computed for weekend and vacation trips. In Sections C and D of the ORS questionnaire information was gathered concerning the weekend and vacation trips taken by each respondent. Detailed information was gathered about the most recent weekend and/or vacation trips if these trips occurred in the past three months. This detailed information included the location, frequency and type of accommodation used, the activities participated in and the travel mode used, as well as the main destination of the trip. Each respondent also specified the major origins and destinations of his second to fourth last weekend and his second and third last vacation trips occurring in the past three months. In addition, respondents estimated the total number of trips taken in the past three months and in the past 12 months.

The main destination of a trip is defined as the respondent's answer to the question "What was the main destination of your most recent weekend/vacation recreational trip?". Secondary destinations (i.e. those of trip segments) are ignored in the computation of imputation factors though one of them will be the main destination. The main origin of a trip is defined by the origin of the first trip segment, which, unless the respondent has recently moved, is usually the same as the respondent's home address.

Let\*

$t''_{ij}$  = number of detailed (most recent) trips in the past three months from main origin  $i$  to main destination  $j$  (for all individuals\*\*).

$T''_i$  = total number of detailed trips in past three months from main origin  $i$  for all destinations  
 $= \sum_j t''_{ij}$

$t_{ij}$  = number of trips in past three months from  $i$  to  $j$  for which only main origin and main destination are known (i.e. second to fourth last weekend or second and third last vacation).

$T_i$  = total number of trips in past three months from  $i$  for which only main origin and main destination are known  
 $= \sum_j t_{ij}$

$T'_i$  = total number of trips in past three months from origin  $i$ .

A two-step process is used to obtain trip imputation factors. In the first step, an estimate is derived of the total number of trips to each main destination (i.e. from origin  $i$  to destination  $j$ ) from each main origin. In the second step, this estimate is divided by the number of detailed trips with the corresponding main destination and main origin.

\*In the symbolism used to describe trip imputation factors, the primes denote the following meaning: two primes (i.e.  $T''$  or  $t''$ ) are used with detailed (most recent) trip data; one prime (i.e.  $T'$  or  $t'$ ) is used with data of total trips; no primes (i.e.  $T$  or  $t$ ) are used with data of trips for which only main origin and destination are known.

\*\*The symbols used to denote trip imputation factors all are sums across the sample of respondents having the specified origins and destination. Thus  $t''_{ij} = \sum_p t''_{ijp}$  where each value of 'p' specified one respondent:  $t''_{ijp} = 1$  if respondent had taken a detailed trip in past three months;  $t''_{ijp} = 0$  if respondent had not taken a detailed trip in past three months. The other symbols may be specified similarly.

Let,

$\hat{t}'_{ij}$  = estimate of total number of trips in past three months from main origin  $i$  to main destination  $j$

$I_{ij} = \frac{t'_{ij}}{t''_{ij}} =$  trip imputation factor for trips going from main origin  $i$  to main destination  $j$ .

The estimate of the total number of trips to each main destination from each origin is calculated by adding the number of detailed trips from  $i$  to  $j$  ( $t'_{ij}$ ) to the number of trips from  $i$  to  $j$  about which only the main origin and destination are known ( $t_{ij}$ ). This is the sum of  $t'_{ij} + t_{ij}$ .

The total number of trips emanating from each origin ( $t'_i$ ) is known. This number is greater than the number of trips from each origin for which destinations are known. Those trips from origin  $i$  about which destinations are unknown are referred to as extra trips. The destinations of the extra trips are estimated using data from trips with known destinations.

Thus,

$$\hat{t}'_{ij} = t''_{ij} + t_{ij} + \text{extra trips (from } i \text{ to } j)$$

Similarly, by summing:

$$\begin{aligned} T'_i &= T''_i + T_i + \text{extra trips (from } i) \div \text{extra trips (from } i) \\ &= T'_i - T''_i - T_i \end{aligned}$$

Thus, it is necessary to estimate the proportion of trips going from each origin  $i$  to destination  $j$  in order to compute the extra trips from  $i$  to  $j$ .

The method used for computing the proportion of extra trips going to each main destination from each origin assumes that the destinations of these extra trips are in the same proportion as those trips for which only the main origins and main destinations are known. Thus, using the data from trips from which only main origins and destinations are known, the proportion of extra trips emanating from origin  $i$  going to destination  $j$  is computed as the number of trips from  $i$  going to  $j$  divided by the total number of trips originating in origin  $i$ . This ratio is:

$$\frac{t_{ij}}{T_i}$$

This method assumes that the extra trips are similar to the second, third and fourth last trips (i.e. those trips for which only the main origins and main destinations are known but for which no

detailed information is known). This approach follows from the assumption of behavioural consistency that the trips beyond those for which origins and destinations are known are probably more similar to trips closer to them in personal time-space. Further, people taking multiple trips are likely more similar to each other in respect to their trip destinations than people taking only one trip.

An estimate of the number of extra trips going to each main destination from each origin is computed by multiplying the number of extra trips emanating from each origin  $i$  by the corresponding proportion of trips estimated to go to destination  $j$  from origin  $i$ . That is, the number of extra trips (from  $i$  to  $j$ )

$$= \frac{t_{ij}}{T_i} (T'_i - T''_i - T_i)$$

Thus, the estimates of the total number of trips to each main destination from each origin are constructed by adding together three quantities. For origin  $i$  and destination  $j$  these are:

- (a) the number of detailed trips from  $i$  to  $j$ ;
- (b) the number of trips from  $i$  to  $j$  for which only origins and destinations are known;
- (c) an estimate of the trips from origin  $i$  to destination  $j$  for which only the origin is known (i.e. the 'extra' trips).

Thus,

$$\hat{t}_{ij} = t''_{ij} + t_{ij} + \frac{t_{ij}}{T_i} (T'_i - T''_i - T_i)$$

Thus, the first step of constructing trip imputation factors is completed. The second step involves dividing the estimate of the total number of trips from each main origin to each main destination by the number of detailed trips with the corresponding main origin and main destination. This is executed so that all information from detailed trips may be used when estimating frequencies of activity participation and accommodation usage while on trips.

Hence,

$$\begin{aligned} I_{ij} &= \frac{\hat{t}_{ij}}{t''_{ij}} \\ &= \frac{1}{t''_{ij}} (t''_{ij} + t_{ij} + \frac{t_{ij}}{T_i} (T'_i - T''_i - T_i)) \\ &= 1 + \frac{1}{t''_{ij}} \times \frac{1}{T_i} \times (T_i t_{ij} + t_{ij} (T'_i - T''_i) - T_i t_{ij}) \end{aligned}$$

$$= 1 + \frac{1}{t_{ij}'} \times \frac{t_{ij}}{T_i} \times (T_i' - T_i')$$

## 8. DERIVING ESTIMATES OF PARTICIPATION

This section discusses how to use the case weights and the trip imputation factors outlined above. The discussion expands on subsection 4.3, 'Estimate of Totals'. Initially, for ease of computation, each case weight is divided by 24. Thus, following the notation of subsection 4:

$$W_{hp}^{**} = \frac{1}{24} W_{hijk}^{*}$$

where  $W_{hp}^{**}$  is case weight for respondent 'p' in strata 'h'. The weights on the ORS tape are divide by 24 (i.e. are like  $W_{hp}^{**}$ ).

According to the weighting scheme, the weights of each replicate in each month, when summed, give an estimate of the total Ontario population. The sum of the weights for all replicates and all months will be 24 times too big since there are two replicates in each of 12 months (i.e.  $2 \times 12 = 24$ ). Hence, to make the weights of the correct magnitude they are divided by 24.

Three major types of population estimates are derived from the ORS using the weights. These are estimates of:

- (a) amount of participation (i.e. total number of days);
- (b) number of participants;
- (c) per cent of population participating.

These estimates are derived from origin populations (i.e. by residence of participants). The amount of participation by origin populations is allocated according to where it occurs. The place of participation is called the destination. The estimates of participation by origins and by destinations of participants are divided into home based and non-home based participation. Non-home based participation is done on "recreation trips during which the respondent was away from home one night or longer" (ORS Survey Documents, p. 22).

### 8.1 At Origin

#### 8.1.1 Number of Participants

For each activity a population estimate of the number of participants in the past 12 months is derived for each origin stratum. To do this, the responses to Section B of the ORS questionnaire are used. The population estimate of the number of participants in an activity is derived by summing the weights of all sample members who indicated that they participated in an activity during the past 12 months. This sum is easily derived from Section B since participation is coded '1' for 'yes' and '0' for 'no'. Thus, steps for deriving a population estimate of the number of participants in activity 'a' are:

- (a) For each respondent multiply the case weight by the response code which indicates if he participated in the past 12 months. Thus, compute:

$$W_{hp}^{**} \times C_{hpa} \text{ for each respondent}$$

where  $W_{hp}^{**}$  is the weight defined above

$C_{hpa}$  is the response of respondent 'p' in stratum 'h' of did/did not participate in past 12 months in activity 'a'. On this variable

1 = did participate in past 12 months

0 = did not participate in past 12 months.

- (b) Sum the results of (a) for each origin stratum:

$$C_{ha} = \sum_p W_{hp}^{**} \times C_{hpa}$$

where  $C_{ha}$  is the estimate of the number of people in strata 'h' who participated in activity 'a' in the past 12 months.

- (c) The estimate of the number of participants in the Province in activity 'a' is the sum of the results of (b) across all strata.

$$\begin{aligned} C_a &= \sum_{hp} W_{hp}^{**} \times C_{hpa} \\ &= \sum_h C_{ha} \end{aligned}$$

### 8.1.2 Per Cent of Population Participating

The per cent of the origin population participating is derived using the estimate of the number of participants in the past 12 months in an origin area. To calculate this per cent, divide the estimate of the number of participants by the origin population:

$$Q_{ha} = \frac{C_{ha}}{\tilde{P}_h}$$

where  $Q_{ha}$  is the proportion of residents in origin 'h' participating in activity 'a'

$\tilde{P}_h$  is the ORS estimate of the population of stratum 'h'.

The estimate of the proportion of the Ontario population participating in activity 'a' is similarly:

$$Q_a = \frac{C_a}{P}$$

### 8.1.3 Number of Days Participation

The number of days of participation of "occasions" (i.e. the amount of participation) in each activity is calculated using the responses to the question, "Please tell me the number of different days on which you've done (ACTIVITY) during the past three months". (Section B, ORS questionnaire). For three-month estimates of the total number of days participation in an activity, multiply each response to this question by its corresponding case weight and sum these products.

Thus,

$$\sum_p W_{hp}^{**} \times D_{hpa}$$

where  $D_{hpa}$  is the number of days respondent 'p' in stratum 'h' participated in activity 'a'.

To make the three-month estimates of the total number of days of participation into twelve-month estimates, multiply them by four.

$$D_{ha} = 4 \sum_p W_{hp}^{**} \times D_{hpa}$$

where  $D_{ha}$  is the estimate of the total number of days residents of origin 'h' participate in activity 'a' in 12 months.

### 8.1.4 Home Based and Non-home Based Participation

For each activity, the amount of non-home based participation is estimated from the responses to the question, "How many of these days (participating in ACTIVITY) were on overnight trips, i.e. weekend or vacation trips?". (Section B, ORS questionnaire).

Estimates of the number of non-home based days participation in the past 12 months are calculated similarly to those of total days. Thus,

$$V_{ha} = 4 \sum_p W_{hp}^{**} \times V_{hpa}$$

where  $V_{hpa}$  is the number of days non-home based participation in the past three months in activity 'a' of respondent 'p' of stratum 'h'.

$V_{ha}$  is the population estimate for stratum 'h' of the number of non-home based days participation in 12 months in activity 'a'.

Similarly, for the Province:

$$\begin{aligned} V_a &= \sum_{hp} W_{hp} \times V_{hpa} \\ &= \sum_h V_{ha} \end{aligned}$$

The number of days of home based participation in 12 months is defined as the difference between the estimates for total days and non-home based days of participation.

$$U_{ha} = D_{ha} - V_{ha}$$

where  $U_{ha}$  is the population estimate for origin stratum 'h' of the number of days of home based participation in 12 months in activity 'a'.

Similarly, for the Province:

$$U_a = D_a - V_a$$

## 8.2 At Destination

Estimates of the number of days participation in 12 months are arrived at for all destination by developing estimates of the number of participation occasions that each origin's residents do at each destination. This calculation involves first estimating the per cent of participation by each origin stratum's residents at each destination. These percentage estimates are developed separately for home based and non-home based participation.

### 8.2.1 Home Based Participation

Home based participation does not involve an overnight stay away from home. Two methods are considered possible for estimating the per cent of home based days participation spent at each destination by residents of an origin.

One method (Method A) involves recording the destinations of the last occasion (response to the question in Section B of ORS questionnaire), "Where did you go (ACTIVITY) on the most recent occasion?" of all respondents for whom the last occasion did not occur on a weekend or vacation trip (i.e. answered 'no' to the question, "Was it done on a day which involved an overnight stay away from home?"). The destinations of activity participation that are not part of overnight trips are destinations of home based participation. Partitioning the total home based days emanating from an origin is done on the basis of the percentage distribution of the total number of respondents going from that origin to each destination on the last occasion.

Thus, Method A is:

$$U_{1hja}^{**} = U_{ha} \times \frac{\sum_p G_{hj2pa}}{\sum_{jp} G_{hj2pa}}$$

where  $G_{hjkpa}$  indicates if last trips of type 'k' to do activity 'a' of person 'p' with origin 'h' has destination 'j',

where  $k = 1$  for non-home based trips

$= 2$  for home based trips

$G_{hjkpa} = 1$  for true

$= 0$  for false

$U_{fhja}$  is the estimate of the number of days participation in activity 'a' calculated using method 'f', which have origin 'h' and destination 'j', where

$f = 1$  for Method A

$= 2$  for Method B

For the estimate of total days home based participation, destination 'j', sum the home based days allotted to destination 'j':

$$U_{1ja} = \sum_h U_{1hja}$$

Another method (Method B) of estimating days of home based participation at a destination is felt to be equally appropriate as Method A. Method B involves accounting for the total days participation by individuals in an activity when calculating the per cent of participation in each destination zone by residents of an origin. In Method B, the per cent participation is calculated using the number of days of home based participation along with the destination of the last occasion of participation. For calculating this per cent, the denominator is the sum of all days of home based participation by residents of a stratum for whom the last occasion was home based. Over this denominator the numerator is the sum of all days of home based participation in a destination zone by residents of a stratum for whom the last occasion also was home based. Thus, the number of days participation at destination 'j' by residents of 'h' in activity 'a' is calculated as:

$$U_{2hja} = U_{ha} \times \frac{\sum_p U_{hpa} \cdot G_{hj2pa}}{\sum_{jp} U_{hpa} \cdot G_{hj2pa}}$$

As in Method A, estimate of total days non-home based participation in destination zone (or stratum) 'j' is:

$$U_{2ja} = \sum_h U_{2hja}$$

---

\*\* $U_{1hja}$  is  $U_{fhja}$  where  $f = 1$ . Similar notation is used in other subscripts where numbers are substituted for letters.

## 8.2.2 Non-Home Based Participation

Non-home based participation involves an overnight stay away from home. To calculate the amount of non-home based participation in destination zones, the detailed information about participation on weekend and vacation trips is used. The number of days participation in each activity by residents of an origin on all trips is computed with the trip imputation factor, case weight and trip data. Every time an activity occurs on a trip segment at a destination, the case weight is multiplied by the imputation factor by the number of days. The resulting products for each activity are then summed (across origins) at each destination for an estimate of the number of days participation occurring there. This result must be multiplied by four to arrive at an annual estimate.

Thus, for days spent doing an activity at destination 'j', take the sum:

$$\sum_{pq} W_{hp}^{**} \times I_{pq} \times R_{hjpaq} = R_{hja}$$

where  $I_{pq}$  is the imputation factor of person 'p' on trip type 'q'

q = 1 for weekend

= 2 for vacation

and  $R_{hjpaq}$  is the number of days on trip type 'q' individual 'p' from origin 'h' does an activity 'a' at destination 'j'.

Better estimates of the amount of non-home based participation at a destination are obtained if information on the amount of non-home based participation (from Section B of the ORS questionnaire) is used along with the estimates derived from weekend and vacation trips. As a first step in obtaining these estimates, the per cent of each origin's residents' participation in an activity at each destination is calculated using the trip data. Next, the number of days non-home based participation in an activity of an origin stratum (derived from Section B of the ORS questionnaire) is multiplied by the per cent of participation occurring at each destination to obtain estimates of participation at each destination. Then, the number of days at each destination is summed for an estimate of the amount of non-home based participation there.

Thus, the number of non-home based participation days by residents of origin 'h' at destination 'j' is:

$$\begin{aligned} V_{hja} &= V_{ha} \times \frac{\sum_{pq} W_{hp}^{**} \times I_{pq} \times R_{hjpaq}}{\sum_{pqj} W_{hp}^{**} \times I_{pq} \times R_{hjpaq}} \\ &= V_{ha} \times \frac{R_{hja}}{R_{ha}} \end{aligned}$$

where  $V_{hja}$  is the number of non-home based days participation in activity 'a' by residents of origin 'h' at destination 'j'.

For total non-home based days participation at destination 'j'

$$V_{ja} = \sum_h V_{hja}$$

### 8.2.3 Accommodation at Destination

A simplified version of the method for estimating non-home based participation is used. Data on accommodation use in Ontario is available from the trip segments of the ORS questionnaire. The number of nights spent by individuals using an accommodation in the past 12 months is assumed to be four times the number of nights spent by individuals doing such in the past three months. For three-month estimates, the sum is taken at every destination of the products (which are calculated for every trip going to that destination) of the case weight times imputation factor times number of nights spent at that destination.

Thus, using similar symbols to the previous section, number of nights spent using accommodation type 'a' in past 12 months by residents of origin 'h' at destination 'j' is:

$$V_{hja} = 4 \sum_{pq} W_{hp}^{**} \times I_{pq} \times R_{hjpaq}$$

where  $R_{hjpaq}$  is the number of nights on trip type 'q' individual 'p' from origin 'h' stays in accommodation 'a' at destination 'j'.

Similarly, total nights spent using accommodation 'a' at destination 'j' are:

$$V_{ja} = \sum_h V_{hja}$$

### 8.2.4 Total Participation at Destination

For an estimate of the total participation at a destination, sum the non-home based and home based participation estimates at the destination:

$$D_{ja} = V_{ja} + U_{ja}$$

where  $D_{ja}$  is estimate of number of days participation in activity 'a' at destination 'j'.

## CHAPTER IV

### DESIGN, CONTENT AND STRUCTURE OF ORS QUESTIONNAIRE

#### 1. SUMMARY

The Ontario Recreation Survey is a complex, integrated multi-objective project. Consequently, many difficult decisions were made in order to complete the survey design. Most of these decisions involved selecting the optimum trade-offs between data requirements and budget constraints. The data requirements that the survey was designed to meet are documented in Chapter I (Background and Purpose), while most of the effects of budget constraints are outlined in Chapter III (Sample Design and Estimation Procedures). Chapter II (Ontario Recreation Survey Pilot Study) discusses the constraints of interview length, and indicates that both the interviewer and the respondent lose interest near the end of an interview if it lasts much more than one hour.

The primary objective of the ORS is to provide estimates of the incidence, frequency and location of participation in 73 selected recreational activities and to provide estimates related to travel mode, accommodation and destination for the weekend and vacation trips of Ontario residents. The free time, preference and demographic sections are included basically to provide the perspective and integrated framework necessary for interpreting activity and trip data properly. Information about home based recreation participation is given the greatest attention since this type of participation accounts for the bulk of all participation in most recreation activities. Information describing weekend and vacation trips in Ontario is emphasized since a large proportion of nights spent and activities participated in by Ontario residents while on such trips occurs within the Province.

Chapter IV is intended to provide the user with an understanding of the ORS questionnaire and an initial guide to the feasibility of doing certain types of analyses. More specific purposes are:

- (a) to outline the interrelations between and among questions found in the same section and/or those in other sections of the questionnaire;
- (b) to describe the major reasons for the particular format and content of various sections;
- (c) to indicate the types and degrees of caution believed necessary in interpreting certain types of estimates.

This chapter is divided into five parts in order to provide the documentation described above. The parts include:

- (a) Household Census and Demographics.
- (b) Recreational Activities.

- (c) Weekend and Vacation Trips.
- (d) Free Time Activities Yesterday.
- (e) Activity and Trip Preferences.

When reading these sections the user must realize that neither all the background considerations nor all the possible types of analyses could be described. Since the questionnaire included approximately 1,000 variables, complete documentation was not feasible. Nevertheless, it should be emphasized that any user of the ORS data tapes must become thoroughly familiar with the content of Chapter IV as well as Chapter III (Sample Design and Estimation Procedures) before undertaking any analyses. This warning applies not only to the intended uses of the data as outlined in Chapter I but to other possible applications as well.

## 2. DEMOGRAPHICS

### 2.1 Introduction

Demographic information about the selected household and more detailed information about the respondent is split between Section A (Household Census and Selection of The Household Member) and Section H (Demographics) of the ORS questionnaire. Section A includes information about the age, sex, relationship to household head, and employment status of each individual within the household. Additional information about whether or not sons or daughters 16 to 25 years of age were temporarily away at college or university was also obtained.

### 2.2 The Household Census

Household members less than 12 years of age and individuals temporarily away at school were excluded from sampling eligibility. Basic information, however, was gathered about these individuals so that characteristics of selected households can be directly compared to census information. Student residences, hospitals and other 'temporary' residences were not included as eligible households in order to reduce as much double counting as possible. Unfortunately, it was thought logistically impossible to exclude students living in apartment buildings in university towns from the sample, because of the difficulty in telling whether or not a particular dwelling unit in which students were living had been included in the 1971 census. It is also believed that any attempt to exclude these dwelling units would have disrupted the sampling scheme. When the selected respondent was a student living in what appears to be a temporary residence, the student's permanent home address was recorded on the questionnaire.

It is possible to define most types of households such as 'family households', 'non-related households', 'single-parent households', and so forth, since individuals can be specified into groups according to age, sex, and relationship to household head.

The question concerning whether or not particular individuals were working full time or part-time can be used in combination with the respondent's and/or household head's employment status information from Section H of the questionnaire. Such combined information may be useful for determining whether or not students, housewives or retired people had part-time jobs.

## 2.3 Detailed Respondent and Household Demographic Characteristics

### 2.3.1 Development Principles

Three general principles were followed in the development of the Demographic Section (H) of the ORS questionnaire:

- (a) Definitions of variables and response categories for variables were made compatible with 1971 census information except when a particular reason could be specified why this strategy should not be followed.
- (b) Information was collected about the respondent's characteristics except when it was believed that the characteristics of either the entire household or the household head would strongly influence the respondent's preferences or actual behavior. In most of these situations, duplicate sets of characteristics were collected.
- (c) Most socio-economic characteristics which, in the literature, have been found to be significantly associated with differences in recreation and travel behaviour were included. Information was gathered in as disaggregated a form as feasible to allow flexibility in developing categories for analysis. The general objective was to facilitate maximum possible scope for analysis.

### 2.3.2 Specific Questions

(i) Vacation Homes The information resulting from Question 1 is comparable to that from the 1971 census question regarding private vacation homes. Question 2 specifically asks for the location of vacation homes. Question 3 determines whether or not they were rented out during the past 12 months, and Question 4 determines the number of weeks rented. Information from Question 3 and Question 4 is necessary to determine whether private vacation homes are used only by their owners or whether this type of land use, like parklands, provides some recreational opportunities for a larger proportion of the population. Caution should be exercised in interpreting results from Question 3 and Question 4 because individuals may have rented out vacation homes, not have reported this rent as taxable income and, therefore, not have wished to acknowledge that their vacation home had been rented out.

(ii) Automobile Ownership The question about automobile ownership can be used to determine the relation between such ownership, the incidence and frequency of participation in recreation activities and the location of participation. This information is useful for

projecting the effect that changing automobile ownership patterns could have upon the use of urban parks and tourist complexes.

(iii) Education Variables Four questions related to education were asked of the respondent (Questions 6 to 9) and two questions were asked of the head of the household (Questions 14-15). Questions 7 and 8 were included to provide more flexibility in determining whether or not the respondent was a student. Responses to these questions should be used in conjunction with Question 10 about present work status to ensure that a student working full time, possibly during the summer, is properly classified for the objective of a particular analysis. The second parts of Question 9 and Question 14 allow further sub-dividing of categories of education. It should be noted that Question 9 and Question 14 asked about the highest grade completed, not the highest grade attended, as in the 1971 census. The survey team thought it more important to know the number of years completed than the number of years attended, since many job requirements are based on completion of a given level of schooling.

In discussions about which educational characteristics should be included in the ORS questionnaire, it was decided that certain types of analyses could be served best by using a surrogate education variable. The surrogate variable can be created by comparing the education of the respondent and the head of the household and adopting the highest level obtained by either. Such an approach offers the advantage of recognizing that differences in younger people's values often can be traced to the influence of the different educational levels of their parents. It also recognizes that the above relation can become weak or even reversed when older teenagers and young adults reach educational levels which are higher than those of their parents.

(iv) Occupation Four questions related to occupation were asked of the respondent (Questions 10-13) and/or head of household (Questions 15-18). Occupations were classified according to the three digit level of detail as defined in the Occupational Classification Manual, Census of Canada, 1971 (Catalogue No. 12-536 Occasional). By combining occupational variables along with other selected variables, such as income, education, age, dwelling type and size of community, it is possible to create what the sociological literature calls 'life-style' variables (for example, see: Michelson, 1970). The detailed occupational classifications also provide the opportunity to apply 'Blisshen' (see Blisshen, 1967) type scales which use occupation as a surrogate for socio-economic status.

(v) Work Time Questions 19-24 probed the work-related demands on time faced either by the respondent or by the head of the household. The latter case applied only when the head of household worked full time. The questions were omitted for households having no one regularly working full time.

Total hours worked per week can be determined by combining information from Questions 19-23. Question 19 provides an estimate of the number of hours worked at the primary job. Question 20 identifies daily commuting time associated with the primary job. This time

can be multiplied by the number of days worked which is provided from Question 21. Finally, Question 23 details total hours associated with a possible second job.

For respondents working full time (determined from Question 10), the above questions provide the opportunity to develop a weekly work time budget which can be compared indirectly to a corresponding free time budget derived from Section E of the ORS questionnaire. Comparisons between free time and work time budgets, however, should be done on a group basis as individual comparisons could result in spurious correlation for those cases when the day about which free-time questions were asked occurred, for example, during the respondent's vacation or weekly days off.

Work time information was collected for the head of household only when that person was employed full time, in order to determine what, if any, effect the work-time demands of the household head have upon the recreational participation patterns of other non-working household members. The information was also collected to partially answer questions such as "Is the type and frequency of recreation participation by homemakers influenced by the time the breadwinner spends working and/or commuting?" This analysis must also be done on a group basis and only those cases that are appropriate to the particular analysis may be used.

Various types of 'work weeks' can be created from Question 21 by combining the different sequences and number of days worked. This variable of work week type can then be compared with various measures of recreational participation. Results from such an analysis, however, must be interpreted with care, since the last week worked may not have been typical, such as the case of the worker on a rotating shift. Questions that would have provided further elaboration were omitted, since the pilot study indicated that people were getting annoyed about the number and detailed nature of this series of questions.

Question 24 provides information about weeks worked by the respondent or head of household, while Question 25 provides information about the number of vacation weeks actually taken. By tabulating this data against the number of vacation trips taken and participation in selected activities, it should be possible to suggest the effect on recreation and tourism facilities resulting from either a decrease in weeks worked, an increase in vacation time, or a combination of both.

(vi) Dwelling Type Responses to Question 27 describe dwelling type, while responses to Question 28 provide the analyst with the opportunity to separate apartment buildings according to number of floors.

(vii) Geographic Mobility Question 29(a) was asked to determine if a relation exists between frequency of residence changes and recreation and tourism behaviour. Question 29(b) allows for an assessment of the possible disruptive effect of a recent move on the total frequency of participation. If a respondent has moved into a new community (Question 29(c)) within the past three months, then that person's present location should not be used as an origin for any of his trips. Unless this rule is followed, some apparently

ridiculous trips might be found during analysis. For example, a person who had just moved to Kitchener from Calgary might have indicated that his last home based skiing trip was to Lake Louise!

(viii) Language Questions 30 to 32 enquired about language spoken in the household. Such questions were included to provide the capability to analyze and to correct for the possibility of higher non-response rates from ethnic groups. These questions also provide information about the recreation demands of certain groups of new Canadians.

(ix) Income Questions 33 and 34 provide information about the total annual income of the respondent and the respondent's household. Household income was chosen as being a more appropriate measure than family income for several reasons. Family income applies only to individuals living in what the Census defines as an "economic family". Unrelated persons living either with a family or with other unrelated individuals are not represented by this measure. Consequently, the adoption of the family income variable would have required two income measures and two corresponding sets of tabulations. Furthermore, household income is the only measure which recognizes that unrelated people living together can share common living expenses and, as a result, have a larger proportion of their income available to spend on recreation and travel.

### 3. ACTIVITY PARTICIPATION

#### 3.1 Introduction

Recreational planning has long suffered from the lack of an integrated base of participation data. Most past surveys have either been activity specific (as downhill snow-skiing) or else have considered only a restricted universe of users (e.g., users of private campgrounds). Definitions of participants have varied from people who have participated in an activity at least once in their lifetime to those who participate at least once a week. No common definition of what constitutes the unit of participation has been used and the problem of unit specification has been ignored far too often. Although many of these past recreational surveys have met their stated objectives, they do not provide the type of information necessary for integrated systems planning. The Ontario Recreation Survey (ORS) was designed to fill this information vacuum and the activity section is its key component.

#### 3.2 General Structure and Content

The activity section of the questionnaire is divided into two main subsections. The first (page 3) had respondents indicate which of 73 recreational activities (see Tables IV-1 and IV-2) they had participated in at least once during the past 12 months. They were then asked to specify which of these activities had been done during the previous three months. The second subsection (pages 3-10) obtained detailed activity information regarding only those activities

participated in during the past three months. Included were several detailed questions about the last occasion that an activity had been done, the total number of different days during which participation had occurred, and the number of different days in which participation took place during either weekend or vacation trips in the past three months.

Some of the 73 recreational activities were grouped for the purposes of the second subsection. For example, the three hunting activities of big game hunting, small game hunting, and waterfowl hunting, were combined into a general category called 'hunting'. Respondents who had indicated participation in at least one of the three hunting sub-activities during the past three months were asked detailed questions about the last occasion they had participated in any one of the hunting sub-activities. They were then asked to recall the total number of different days during which they had participated in one or more of the hunting sub-activities during the past three months.

Activities were grouped so that, within the time constraints of the questionnaire, information could be obtained for a greater number and range of activities. This decision, however, sacrificed the amount of information that would have been made available for certain sub-activities.

Grouping of activities was done on the basis of:

- (a) similarity in the nature of the activities in the group;
- (b) their resources and/or facility requirements;
- (c) the fact that certain combinations of activities are administered by distinct agencies of the provincial government.

The last criterion is important in planning since it allows information about participation to be related directly to specific programmes. Activities with high participation rates were not grouped. For example, swimming, picnicking, visiting developed historic sites, and recreational driving remained as distinct activities.

The second activity subsection (pages 4-10 of the questionnaire) contains 23 sets of detailed questions, each of which corresponds to an activity or activity group defined from the list of 73 recreational activities (see Tables IV-1 and IV-2). The first 22 sets of questions refer to the activities/activity groups found on page 3 of the questionnaire (see Table IV-1). The remaining activities were all grouped in a category called 'Other Activities' (see Table IV-2). Any such division of activities is, to some extent, arbitrary, since it is impossible to define mutually exclusive selection criteria. It can be generally claimed, however, that the first 22 activities/activity groups were emphasized for one or more of the following reasons:

- (a) The provincial government has a major responsibility for directly providing the necessary facilities and resources, or access;

TABLE IV-1

THE FIRST 22 ACTIVITIES/ACTIVITY GROUPS

1	Swimming or Wading	14	<u>Organized Nature Appreciation*</u>
2	<u>Boating*</u>		. Visiting a Zoo or Botanical Garden
	. Motor Boating		. Visiting Nature Displays or Exhibits
	. Canoeing		. Going on a Guided Nature Tour
	. Sailing		
	. Other Boating		
3	Fishing		
4	Water-skiing	15	<u>Personal Nature Appreciation*</u>
5	Picnicking		. Going on an Outing to View or Photograph Birds, Animals or Fish in their Natural Surroundings
6	<u>Hunting*</u>		. Going on an Outing to View, Photograph or Collect Plants in their Natural Surroundings
	. Big Game Hunting		. Going on an Outing to View, Photograph or Collect Rocks in their Natural Surroundings
	. Small Game Hunting		
	. Waterfowl Hunting		
7	<u>Snowshoeing and Cross-Country Skiing*</u>		
	. Snowshoeing		
	. Cross-country Skiing		
8	Downhill Skiing	16	Visiting a Developed Historic Site or Display
9	Recreational Driving	17	Visiting a Museum or Art Gallery
10	<u>Cycling*</u>	18	Attending a Sporting Event as a Spectator
	. Recreation Bicycling	19	Attending a Live Theatre or Concert Performance
	. Recreational Motorcycling		
	. Recreational Trail-biking		
11	Recreational Snowmobiling	20	Attending an Annually Scheduled Fair, Exhibition, Sportsman Show, Festival or similar Special Event
12	Hiking		
13	Recreation Walking	21	Visiting a Private Cottage, Chalet, Hobby Farm
		22	Camping

---

\*refers to the title of the activity group. Individual activities comprising the group are listed directly beneath.

TABLE IV-2

THE OTHER ACTIVITIES

23 Other Activities\*

- |                           |  |
|---------------------------|--|
| . Golfing                 | . Bocce                                |
| . Tennis                  | . Handball                             |
| . Horseback Riding        | . Alley Bowling                        |
| . Skin or Scuba Diving    | . Lawn Bowling                         |
| . Ice Skating             | . Track and Field                      |
| . Tobogganing or Sledding | . Gymnastics                           |
| . Curling                 | . Fencing                              |
| . Ice Hockey              | . Roller Skating                       |
| . Baseball or Softball    | . Mountain Climbing                    |
| . Football (Canadian)     | . Sports Car Racing                    |
| . Soccer                  | . Car Rallying                         |
| . Basketball              | . Stockcar or Drag Racing              |
| . Rugger                  | . Recreational Flying<br>or Sky Diving |
| . Cricket                 | . Archery                              |
| . Lacrosse                | . Trap or Skeet Shooting               |
| . Volleyball              | . Boxing or Wrestling                  |
| . Equestrian Sports       | . Judo or Karate                       |
| . Field Hockey            | . Strength Sports                      |
| . Badminton               | . Water Polo                           |
| . Squash                  |  |

---

\* refers to the title of the activity group. Individual activities comprising the group are listed directly below.

- (b) The provision of opportunities for the activities is important to the infrastructure of the tourism industry;
- (c) The provincial government provides substantial grants to other agencies who, in turn, provide the necessary opportunities.

Provision of opportunities for most of the 'Other Activities' has traditionally been a major responsibility of either the private sector or municipal governments. Consequently, getting detailed information about these activities was not thought to be as high a priority.

The detailed activity section (pages 4-10) was designed to provide most of the information about the time, location, jurisdiction and frequency of participation for each of the 23 activities/activity groups.

### 3.2.1 Total Participation (For the Three Months Prior to the Interview)

Estimates of the total days during which participation occurred and the number of days during which participation occurred while on weekend/vacation trips, were obtained for the first 22 activities or activity groups (Table IV-1). These questions were also asked for each of the 'Other Activities' (Table IV-2) in recognition of the diversity of activities in this group.

### 3.2.2 Location

The location where the last occasion of participation occurred was asked for each of the activities/activity groups. Locations in Ontario were specified to the nearest town, village or city. Less specific information was collected for out of province locations. A hierarchical coding system was used which allowed easy aggregation of specific locations into township and county units. Location information was gathered in order to determine how far people travel for participation in different types of activities. Such information is extremely important in determining market areas for particular cities and estimating a probable volume of use at specific proposed facilities.

### 3.2.3 Jurisdiction

Respondents were asked to indicate the jurisdiction in which their last occasion of activity participation had occurred. This information is needed to estimate the percentage of the total participation that is being provided by each of the various jurisdictions within Ontario. In analyzing this data, it should be recognized that some respondents may have had trouble in distinguishing among the various types of public jurisdictions. The greatest potential of error likely occurred in distinguishing between municipal and regional facilities in the Metro Toronto area. It is suspected that the name 'Metro Toronto Conservation Authority' confused respondents. It should also be noted that for water based activities, jurisdiction refers to the point of access.

#### 3.2.4 Time

Three sets of detailed time-related questions were asked about the last occasion of participation for the first 20 activities/ activity groups listed on page 3 of the ORS questionnaire. Included were questions about (a) the day of the week, (b) whether or not the activity was done while on an overnight trip and (c) whether or not participation took place during the respondent's vacation. By cross-classifying responses to these three questions, it is possible to define the major time periods of participation identified within the TORPS Prototype Model. The most important time break determined whether or not participation occurred on an overnight trip. This procedure divided the information into home based or non-home based use. Most of the projection models are segmented on this criterion and many supply standards are implicitly developed for home based participation only. Day of week information is used to estimate the extent of daily peaking for different kinds of activities. Information on peaking is critical to the design of facilities and has been identified as a key concept in the Ontario Recreation Supply Inventory methodology (1975). By cross-tabulating the information from the 'vacation or not' questions with that from the 'overnight trip or not' questions, some participation occasions can be identified that can be linked directly to the last weekend or vacation trip, which is described in detail in Section C of the ORS questionnaire.

#### 3.2.5 Activity Specification

In those cases of activity groups, a question was included to specify which sub-activity was done last. By identifying the activity done last, it is possible to consider more specific relations. For example, do people travel further for home based sailing or for home based motor boating? Do municipal governments provide for more golfing or for more tennis participation?

#### 3.2.6 Miscellaneous

The activity section included questions which asked which particular types of facilities were used last by the respondent. For example, swimming facilities were divided into three categories: (a) indoor pool; (b) man-made outdoor pool; (c) lake, river, ocean or reservoir. Such data would provide a planner with the opportunity to compare the distance people travel to use natural environment swimming areas as opposed to man-made pools. For snowmobiling, snowshoeing, cross-country skiing and hiking, the last occasion of participation was specified according to whether or not it occurred in designated areas or on trails. Other miscellaneous questions were included to provide data which is particularly important to planning for specific activities. For example, a question was asked to determine which activities were done in conjunction with a personal nature appreciation outing.

#### 3.3 Special Treatment of Camping and Visiting a Private Recreation Home

The ORS was designed to provide the type of data that would allow camping and visiting private recreation homes to be analyzed as activities, as well as accommodation types. Camping and visiting a

private recreation home were treated as activities in Section B of the questionnaire, recognizing that each has identifiable and peculiar sets of associated sub-activities. For example, singsongs and marshmallow roasts around the campfire are typical scenes at campsites. To enable the analysis of the activity/accommodation package concept identified in the TORPS Prototype Model, the activity questions in subsection 22 of Section B of the ORS questionnaire were designed so that detailed information about the last occasion of camping or cottaging could, in certain cases, be linked directly to corresponding weekend/vacation trip information from Section C and D of the questionnaire.

### 3.3.1 Visiting a Private Cottage, Chalet, Hobby Farm, or Other Recreation Home

Question 2 (page 9) in this set of questions determined whether or not the respondent stayed overnight on his last visit to a private recreation home. This question should provide an estimate of the extent to which private cottages, etc., act as destinations for home based day trips. If the respondent stayed overnight at a private recreation home, this information can be linked with the accommodation types used on the respondent's last weekend or vacation trip. When a private recreation home has been used in both cases and the destination recorded in response to Question 1, Subsection 21 and a destination for the last trip are the same, then recreational activities done while staying at the private recreation home can be determined.

Question 3 asked whether the vacation home last visited was owned, rented or used free of charge. This question was included to determine the extent to which private recreation homes are used by their owner's household as opposed to providing opportunities for a greater number of people.

It is difficult to estimate the total number of home based recreation days spent at private recreation homes. To get an approximate estimate, it is necessary to take estimates derived from responses to Question 4 and then subtract the days associated with all weekend and vacation trips. The problem here is in properly translating nights, which are recorded in the detailed trip section, to days. For this to be done, it is necessary to add one to the number of nights of private recreation home accommodation at each destination for all respondents. Another possible problem is that some respondents may have provided responses in terms of nights instead of days when responding to Question 4. When estimating the per cent of participation at recreation homes according to whether it is owned, rented or used free of charge, the analyst should separate home based and non-home based participation and these separate estimates should be weighted by the per cent use in each time period before totals are calculated.

### 3.3.2 Camping

The first question on camping (page 10) was asked to provide a rough estimation of the percentage of camping that is accommodation-oriented. Responses to Questions 3(a) provide an estimate of the percentage of all camping that is 'wilderness-oriented'. To estimate

wilderness camping as a proportion of all camping, the analyst should divide the responses to Question 3(b) by the sum of all responses to Question 2(b). Note also that by selecting all respondents indicating 'yes' to Question 3(a), a profile of wilderness users can be developed. Data regarding the locations of camping in Ontario is obtained from the detailed weekend and vacation trip sections (Sections C and D) of the ORS questionnaire. In cases where the last weekend or vacation trip included camping, information from the detailed section on camping (see questionnaire, page 9) applies to the last trip, and it may be possible, for example, to make preliminary estimates about the location of wilderness camping, Crown land camping, etc.

### 3.4 The Last Occasion Concept

The primary objective of the detailed activities section was to provide a means of proportioning estimates of the total participation in activity groupings by the various combinations and permutations of locations, jurisdictions, time periods, sub-activities, and the particular types of facilities used. From a statistical point of view, this should have been done by having the respondent describe each of the recreational occasions in terms of the above characteristics. This approach was judged impractical, however, from an interviewing point of view unless only a very limited number of activities could have been considered. The choice, then, came down to obtaining either detailed information about the 'average occasion' or information about a specific occasion of participation. The first approach was evaluated as unacceptable, since it reduced the chances of including some of the rarer events, e.g. the longer than average trip to a particularly attractive beach. Taking the average event could also lead to spurious correlations and other interpretation problems associated with the analysis of grouped data. Also, respondents generally have problems in answering questions which are not specific to time or space. It was decided, finally, to have respondents provide details about the last occasion in which they had participated in each of the activities and activity groups. The survey was set up in such a way, therefore, that the last occasion of participation should approximate a random event. Then, most interrelations, with the exceptions noted below, could be treated within a probabilistic framework. This is one of the main reasons that the interview schedule was spread as evenly as possible among the twelve months of the year.

The location of the last occasion should not be used to partition total non-home based participation among geographical areas. The problem here is that the last occasion has a greater chance of occurring nearer to the respondent's home. Locational estimates of non-home based participation should be made from the detailed weekend and vacation information (Sections C and D of the ORS questionnaire).

The same problem with non-home based participation data will occur with jurisdiction data since certain jurisdictions are more important suppliers of recreational opportunity in some areas of the

province than others. As no easy way could be found to determine an unbiased estimate of the amount of non-home based participation provided by each of the various jurisdictions, the analyst must use the data from the questions at his own risk. To eliminate as much potential bias as possible, all tables using jurisdiction as a variable should be broken down by home based and non-home based use and totals should be adjusted to reflect the relative proportion of non-home based as opposed to home based participation.

### 3.5 Units of Participation

Section B of the ORS questionnaire provides estimates of the total frequency of participation for each of the activities and activity groups in terms of the number of different days during which participation took place. All estimates apply to the three months prior to the interviewing data. Thus, a unit of participation can be called an 'occasion' or an 'activity day' and its definition allows a respondent to do more than one activity on any given day.

In the terminology used by The Tourism & Outdoor Recreation Planning Study (TORPS), the basic unit of participation is called an 'occasion'. An occasion is defined by a person participating in one activity for at least fifteen minutes during one day. A person cannot have more than one occasion of participation in a specific activity during a day. The number of different days that a person participates in an activity equals the occasions of participation in that activity. Because a person can participate in more than one activity during a day, a person can have more than one occasion of recreation participation during a specific day.

Certain analyses may require estimates to be made of the total frequency of participation in a sub-activity. For example, the analyst may be required to estimate the average number of days of participation for cross-country skiing, but finds that within the questionnaire he can provide only an estimate for the combined activity of cross-country skiing and snowshoeing. Since it is not possible to make such estimates directly, certain assumptions are necessary before approximate estimates can be made. One indirect approximation can be made by multiplying the total number of days of participation for that activity group by the proportion of all last occasions that were cross-country skiing. Such an estimate, however, could be low since it does not recognize that both cross-country skiing and snowshoeing could occur on the same day. To take dual sub-activity participation into account one could estimate the proportion of (a) cross-country skiing only; (b) snowshoeing only; and (c) combination cross-country skiing and snowshoeing days from weekend and vacation trips. The proportion of these days on which condition (a) or (c) occur can be multiplied by the original estimate of cross-country/snowshoeing days to provide an estimate of cross-country skiing occasions.

An alternative way of estimating occasions in a sub-activity is to use estimates for respondents who do only that sub-activity. For example, the mean days of cross-country skiing per participant can be estimated from respondents who cross-country ski but do not

snowshoe. The adoption of this method requires the assumption, for example, that people who both cross-country ski and snowshoe, cross-country ski at the same frequency as respondents who only cross-country ski.

#### 4. WEEKEND AND VACATION TRIPS

##### 4.1 Introduction

Sections C and D of the ORS questionnaire were designed to collect detailed information about weekend and vacation trips taken by respondents. Respondents must have been away from home for at least one night and the purpose of taking the trip must have been other than just business for any of their trips to qualify for inclusion. For trips that were a combination of business and non-business, more than one-half of the days must have been spent for purposes of recreation and/or visiting friends or relatives. Weekend trips were limited to a maximum of four nights away from home and must not have included any of the respondent's vacation time. Vacation trips included all other non-business trips.

Except for questions about the incidence and frequency of trips taken within the past 12 months, all questions within the two sections were limited to trips ending within the three months prior to the date of interviewing.

Respondents who had taken a weekend or vacation trip during the three month recall period were asked three series of questions. The first series included questions designed to provide data necessary to classify trips, to enable the calculation of trip imputation factors and to facilitate strict computer editing of other more specific information. The second series of questions was designed to provide detailed segment by segment information about the last trip taken. The final series of questions had respondents indicate the total number of trips that they had taken within the three month recall period and to describe some selected characteristics of up to three 'other trips'. All three series of questions applied separately to weekend and vacation trips.

As indicated earlier, only trips ending within the three month recall period were described in Sections C and D. This arbitrary definition provided interviewers with a simple, yet precise rule for treating trips that were in progress three months prior to the interview date. If only trips beginning and ending within the three month recall period had been included, the total number of trips taken would more likely have been underestimated due to non-response bias. Such non-response bias could result from some potential respondents not being contacted (and recalling a trip) during a sampling period simply because they were away on a trip. It is probable that this non-response bias would have the greatest effect on estimates of vacation trip characteristics due to the longer period that potential respondents would normally be away from home.

## 4.2 General Last Trip Information

The first set of trip-related questions found on pages 11 and 15 of the ORS questionnaire provides information necessary for classifying special types of trips. Question 4 provides information about the exact date the last trip began. It is possible, therefore, to consider specific trips taken, e.g., from July 15 to September 15, and compare these trips with other trips occurring in either overlapping or separate time periods. Question 5 allows trip classification according to main destinations, while Question 8 provides party type information. Question 9 provides party size information which is necessary for separately computing party trips from person trips. Question 6 asks where the trip exited the Province, while Question 7 asks about the number of nights outside Ontario. Finally, Question 10 asks about the total number of nights away from home. These questions were included to provide information for a complex editing procedure. Edit routines are described in Appendix E.

Following from the sample design and recommended estimation procedure, the analyst must realize that estimates such as those for number of trips taken, nights spent away from home and nights spent using various types of accommodation refer to individuals, not groups of persons who may have travelled together.

## 4.3 Detailed Segment by Segment Information

Trips recalled in detail were divided into segments for questioning and recording purposes. Except for special cases, the origin, destination, transportation mode and number of nights spent at the destination were specified for each segment. In all cases, the number of nights in Ontario recorded for each trip segment (see ORS questionnaire, pages 12 and 16) should sum to the total number of nights away from home minus the number of nights spent outside the Province (see Questions 10 and 7, pages 11 and 15 respectively).

For the entire trip, information was recorded concerning (see ORS questionnaire, pages 13 and 17):

- (a) recreational activities participated in;
- (b) the corresponding segment number in which participation occurred;
- (c) whether participation occurred 'en route' or 'at destination';
- (d) number of different days on which participation occurred.

The actual location of participation in specific activities can be determined by cross-tabulating the activity segment numbers (see questionnaire, pages 13 and 17) with the destinations of the same segment numbers as defined on pages 12 and 16 of the ORS questionnaire. This will provide the planner with an indication of which activities are done in given geographical areas for both weekend and vacation trips. The segment format also allows for the application of multivariate statistical techniques to activity and accommodation data to determine the presence or absence of particular 'activity/

accommodation packages' as defined in the TORPS model. Before working with detailed data about the last weekend and/or vacation trip, the analyst should become thoroughly familiar with Section VI, pages 27-35, of the Ontario Recreation Survey, Survey Documents (1973) where specific definitions and rules for recording data are outlined.

#### 4.4 'Other' Weekend and Vacation Trips

Respondents who indicated that they had taken more than one weekend or vacation trip which ended during the three-month recall period were asked to describe:

- (a) the number of nights away from home;
- (b) the main destination;
- (c) the accommodation type(s) used;
- (d) the top three recreation activities participated in for up to three 'other' weekend and two 'other' vacation trips.

Consequently, a general description of most weekend trips and virtually all vacation trips is available for the recall period. The questions about 'other' trips were included to provide a basis for testing whether the last trip taken yielded biased estimates of trip characteristics and to provide data necessary for computing trip imputation factors.

The second part of Question 21 in both Sections C and D of the ORS questionnaire refers to total trips taken other than the one recalled in detail. Thus, unless the respondent has not taken a trip, Question 21 will yield an estimate of trips taken during the past three months which is one less than the true total.

#### 4.5 Partitioning Estimates of Non-home Based Participation

Section B of the ORS questionnaire included questions to determine the total days that respondents had participated in a recreational activity or activity group during the past three months. Corresponding questions were also asked about total participation occurring on weekend and vacation trips. The frequency of participation estimates from Section B should be used to estimate the number and proportion of home based recreation occasions for all activities and activity groups. Subsection 8.2 of Chapter III outlines how the location of the last home based occasion of participation in an activity can be used to partition home based consumption by geographical area. Information regarding the locations of activity participation from Sections C and D of the questionnaire is intended to be used to partition the total non-home based participation estimates from Section B, into consumption zones.

Designing trip related activity questions to achieve this objective proved extremely difficult. Nowhere else in the questionnaire was the need to compromise between the requirements for specific

and unbiased data and the respondent's ability and willingness to provide valid and reliable data more striking. Ideally the respondent would have provided a day by day account of all activity participation done while on all trips taken within the recall period. When an activity had been done at more than one location during a day, a rule would have been required by which consumption could be proportionally allocated among the various locations. In this way a double counting of participation could be eliminated entirely and the definition of non-home based occasions associated with a trip could remain consistent with the definition used in Section B. The study team decided, however, that asking the number of repetitive questions needed to achieve this objective of consistency in definition would have jeopardized the chances of completing some interviews and reduced the respondent's care and attention in answering subsequent questions in other sections.

The compromise adopted had the respondent provide detailed activity information for the last weekend and/or vacation trip only. The respondent was asked which recreational activities were done on each trip segment, whether participation occurred en route or at the destination and on how many different days each activity was done while at each destination. No attempt was made to determine the specific location of 'en route' participation.

With the exception of participation occurring on segments having both origin and destination outside of Ontario, non-home based participation can be partitioned into consumption zones entirely on the basis of data associated with segment destinations. Users of this data must recognize that such an estimation procedure may cause some bias. The bias, however, should be small, as it appears that by far the greatest percentage of participation occurs at destinations. It is believed that the potential for bias can be reduced substantially by defining reasonably large sized consumption zones. Consumption zones should never be smaller than a county and analysis may show that only areas much larger than counties can be used. Finally, the person trips from which the data are derived to make the estimates described above must be imputed. The recommended procedure for deriving and applying trip imputation factors has been described in Chapter III, Sections 7 and 8.

It must be realized that the number of non-home based 'occasions' of participation for an activity estimated from Section B may not, in all cases, agree with a summation of 'occasions' estimated from all weekend and vacation trips recorded in Sections C and D. Some of the more obvious explanations for such a lack of agreement include:

- (a) Recall for activity participation while on a trip may be longer than three months if the respondent has started the trip more than three months prior to the date of the interview. The recall for Section B was restricted to three months exactly.
- (b) Rules for recording responses for trips would legitimately allow an activity to be recorded as participated up to three times on a given day, i.e. at origin of the segment, en route, and at the segment destination. Section B allows an activity to be included only once a day.

- (c) All participation is recorded at the activity level in the trip sections whereas some activities, for example, the boating activities, were grouped in the detailed activity section.

Some idea of the extent of double-counting of participation in the activity section can be determined by comparing separate estimates of non-home based participation from Section B with data from Sections C and D. Such comparison is valid only when the following conditions are met:

- (a) No more than one weekend and/or vacation trip is indicated in Sections C and D respectively.
- (b) All trips recalled must have begun within three months of the interview date.
- (c) Only activities not grouped in Section B can be compared.

The discussion of Section B described procedures by which estimates of the total frequency of home based participation for grouped activities, such as hunting, could be expanded into estimates for the individual activities which comprise the group, i.e. big game, small game and waterfowl hunting. Computing corresponding estimates of non-home based participation for grouped activities is not an easy task. The main difficulty is that, except for the en route portion of trip segments in Ontario and a rather limited number of 'at destination' cases, it is not possible to determine whether activities in a given group were done on the same or on different days. As outlined earlier, it was decided that asking the number of repetitive questions needed to yield such information would have placed an excessive burden on the patience of respondents.

It may be possible to develop expansion factors from information found in the Free Time Yesterday Section which can be applied to estimate the total frequency of non-home based participation in sub-activities. Such expansion factors would probably be valid for participation on weekend trips. The validity and reliability of such factors for participation on vacation trips is, however, suspect. Underestimates could be expected if the assumption is accepted that people participate in fewer recreational activities on the last or second last day of their vacation trips. Using expansion factors derived from the free time yesterday vacation data has the further limitation of restricting the possible combination of activities that could have been done to enjoy those activities for which opportunities were available. For example, if the respondent had been travelling through an area having many small rivers, yet few large lakes, then it is possible that he could have canoed but not canoed and sailed. This problem makes it difficult to recommend the best method of deriving sub-activity expansion factors without first undertaking detailed analysis of the data. No matter which expansion procedure is eventually adopted, it is recommended that any attempt to estimate total activity participation (for sub-activities in Section B), by consumption zone be made only after first partitioning the total activity group's participation into the consumption zones.

#### 4.6 Additional Information

Sections C and D provide the information required for estimating total annual person nights of overnight accommodation used by Ontarians while on trips in Ontario. Each segment of the last weekend and vacation trip having an Ontario destination includes information about accommodation type used, number of nights stayed and the specific locations of the destination. To provide estimates, for example, of total person nights stayed in accommodation type by consumption zone, the last trip should be weighed by the corresponding trip imputation factor. In all cases, separate estimates of accommodation can be made for weekend or vacation trips. The estimation equations for determining total person nights of accommodation by type of trip by consumption zone in Ontario are described in Chapter III 8.2.2.2.

### 5. FREE TIME ACTIVITIES YESTERDAY

#### 5.1 Introduction

The Free Time Activities Yesterday Section was created to meet two objectives. First, it was designed to provide data about what people do in their free time as well as the amount of free time they have available. Second, it was developed to provide data that could be used in conjunction with other sections of the questionnaire to establish or elaborate upon certain relations.

#### 5.2 Structure and Content

Free time activities are defined as any activities done by choice. Such an open definition is designed to identify the full range of non-obligatory uses of time.

For the purpose of the survey, free time activities are divided into recreational activities and leisure activities. Recreational activities are defined as any of the 73 activities listed in Section B, while leisure activities refer to all other discretionary uses of time. The above division was made in order to provide data in a format compatible with the requirements of the TORPS Prototype Model.

In the Free Time Activities Yesterday Section (see questionnaire, page 19) each respondent recalled which free time activities he or she did yesterday or Saturday:

- (a) from the time the person got up until noon (Question 2);
- (b) from noon until 6:00 p.m. (Question 5);
- (c) from 6:00 p.m. until he or she went to bed (Question 8).

Respondents also estimated total free time spent in each of these three time periods (see Questions 3, 6 and 9). A separate estimate

of total time spent doing recreational activities was also requested (Question 10). Finally, three questions about the day recalled were included (Questions 11, 12 and 13). It should be noted that information regarding the date of the interview recorded on page 1 of the questionnaire can be used with these final three questions in this section to determine the exact date recalled by each respondent.

The objective of minimizing bias in the free time and free time activity was a major reason for allocating an equal number of interviews to each sub-stratum during each month. With an even distribution of interviews throughout the 12 months, it was possible to have a 'day before the interview' recall period without introducing large seasonal biases. This strategy reduced administrative problems and respondents' resistance associated with other alternative data collection methods such as 'time diaries'.

Every attempt was made to have an equal number of respondents recall each day of the week for each month. Daily scheduling of interviews within months, however, took place with the constraint of no interviewing on Sunday. Consequently, twice as many interviews were scheduled to begin on Monday as opposed to the days from Tuesday through Saturday. One-half of the respondents interviewed on Monday recalled the previous Saturday, while the other half recalled the previous Sunday. Such a compromise did lengthen the recall period for certain respondents, but it provided the potential for obtaining an equal number of observations for each day of the week.

No interviews were scheduled to commence on Sunday for two reasons. First, it avoided inconveniencing or antagonizing respondents who believe Sunday is a day of rest. Experience from the pilot study indicated that Sunday interviewing would increase rates of refusals as well as not-at-homes. Second, not interviewing on Sundays improved the chances of obtaining a better representation of what people do on weekend trips. If Sunday interviewing had taken place and a one-day recall was used, it is highly unlikely that the Saturday of the typical weekend trip would have been recalled, since respondents taking trips would not have been home on Sunday to be interviewed.

Attempts were made to distribute completed interviews evenly throughout the weeks of each month. This objective, however, was difficult to achieve since interviewers could not determine in advance how many contacts would be required to complete an interview. The practical solution for increasing the chance that sufficient time would be available for completing the monthly allocation of interviews was to make more than one half of the original contacts before the middle of each month.

### 5.3 A Caution

Special caution must be taken when analyzing the free time data from the ORS questionnaire. In particular, attempts at estimating total days of participation in a specific activity over a

typical 12 month period from this data is not recommended. Such estimates may be biased and/or unreliable since the day recalled was not selected at random.

Unreliability may result from the low probability of a specific characteristic being present on a day recalled by a respondent. For example, the probability of selecting a respondent who downhill skied the day before his or her interview would be quite small even if the selected respondent happened to be a skier. Some measure of the degree of reliability of particular estimates should always be obtained when such estimates are used to make important inferences. In these cases, it is recommended that the estimates from two replicates always be compared and the variance calculated.

Major sources of bias may result from two circumstances. First, an equal number of respondents may not have recalled each day of each week of each month within the twelve month sampling period. Consequently, typical 12 month estimates for activities in which a large proportion of all participation occurs on one or a very limited number of days may be incorrect due to the over and under sampling of these days. Second, the structure of the questionnaire eliminated the possibility of having certain weekend and, in particular, vacation trip days recalled. As a result, free time activities which typically take place on such trips are under-represented.

In general, estimates of the frequency of activity participation for a typical 12 month period should not be made from data on free time yesterday. It is difficult to suggest how invalid estimates are for specific activities. It is believed, however, that estimates for (a) activities done infrequently, (b) activities for which a large proportion of participation occurs on a very limited number of days and (c) activities typically done on weekend and/or vacation trips are most hazardous to make.

#### 5.4 Applications

The Free Time Activities Yesterday Section should provide reasonably good estimates of the type of activities done and time spent during home based days. Any analysis of activities done on home based days, however, should first determine if the days of the weeks within each month are represented in the sample in their true proportions. When the resulting distributions are significantly different than the expected distributions, then adjustment factors should be calculated and applied to correct discrepancies.

The analyst must recognize that some time periods during particular weekend trips have no chance of being recalled. For example, no chance exists for recalling the Friday evening for a weekend trip from which the respondent returned home on Sunday evening. Consequently, certain assumptions about structural bias are required before data about free time use on weekend trip days can be interpreted and it is the responsibility of the analyst to state clearly any such assumptions.

As indicated above, the section on free time activities will not yield unbiased data for non-home based vacation days. According to the questionnaire instructions, only the last or second last day of any vacation trips could have been recalled. Data about free time available on vacation trips was not collected since the pilot study indicated that when estimates of time were recalled for a period up to three months, there were highly associated standard deviations, often three or four times the mean.

Subject to the reliability and validity caution mentioned previously, it may be possible to use the free time activities yesterday data in conjunction with data from other sections of the questionnaire to establish or to elaborate upon a number of relations concerning home based recreation. One such use has been described in the detailed activity section where it was proposed that free time activity data possibly could be used to estimate the number of occasions of recreation for sub-activities of activity groupings. Free time activity data may also be used to determine which types of activities are done in combination. Here the application of cluster analysis to isolate typical daily activity packages is an interesting possibility.

It may also be possible to use free time activity data to provide time period related information for the 'other activities' (see Table IV-2) for which the three time-related questions were not asked.

## 6. PREFERENCE

### 6.1 Background Considerations

More attention was paid to developing the preference section than any other single section of the questionnaire. A major component of the background work was done through a research contract with Dr. D. Bishop and Dr. P. Witt (1972). Both are social psychologists who have considerable research experience with the analysis of time budget, activity package and recreation preference data. The Bishop-Witt research for TORPS dealt with the relation among a person's:

- (a) present recreation participation, both in terms of incidence and frequency of participation;
- (b) preferred activities and frequency of participation in those activities;
- (c) perceived constraints to desired participation;
- (d) probable patterns of activity substitution.

A major part of the final research report deals with the problem of how to evaluate stated activity preferences. Bishop-Witt suggested that stated preferences can be classified into

wishes or dreams on the one hand and into true wants on the other hand according to a number of factors. These variables include the individual's:

- (a) experience with the activity;
- (b) relative opportunity - necessary facilities and/or resources being available;
- (c) socio-economic status;
- (d) skills in the activity;
- (e) interest in the activity;
- (f) habitual behaviour in the activity;
- (g) willingness to spend the extra required time or money;
- (h) personality.

## 6.2 Activity Preference

Activity preference questions were designed so that as many as possible of the above factors could be included in analysis. The activity preference section (see questionnaire, page 20) divided activities into three sets according to the respondent's experience and habitual behaviour in the activities. The three sets included:

- (a) activities presently being participated in (Question 2);
- (b) former activities not presently being participated in (Question 4);
- (c) new activities (Question 6).

Each questionnaire included a large number of socio-economic characteristics for both the respondent and his household. Each respondent's recreational opportunity can be determined from Ontario Recreation Supply Inventory data. The length of the questionnaire excluded the possibility of asking the number of questions necessary to probe the respondent's personality. Some of the variables on the Bishop-Witt list were excluded because it was believed that they were highly correlated with other variables being collected. Other variables for which it was believed difficult to obtain valid measure were also excluded.

For each activity in which more participation was desired, respondents were asked (through Question 7) to list, in rank order, what they believed to be their constraints. The categories listed on the corresponding response-categories card were developed from typical responses to similar questions used in the Outdoor Recreation Review Commission Study (1960) and in the Ontario Recreation Pilot Study. All constraints were made as mutually exclusive as

possible. Certain constraints were constructed to correspond to specific types of government action which could be taken to reduce or eliminate the constraint.

When interpreting responses to the constraint questions, the analyst must realize that the respondent may have inaccurately perceived the presence of particular constraints. Examples could include a person perceiving an activity as being 'too dangerous' yet not having any experience with the activity. A person could also perceive, on the basis of past experience, that facilities were too crowded, although in reality this was no longer the case.

It is important to remember that a perceived constraint has reality to its beholder and as a result may influence his participation or lack of it. It may be useful to identify those cases where an inaccurate perception of the constraints results from the respondent's lack of up-to-date information. In such circumstances an information programme can be as effective as a more costly recreational facilities development programme. It is possible, for example, that some of the tremendous weekend pressure on ski hills could be redirected toward the weekdays by ensuring that skiers are aware that the areas are open and that there are fewer line-ups on weekdays.

A question (Question 8) about the preferred number of additional days of participation was asked for each activity that the respondent wanted to participate in more frequently or simply wanted to engage in again. Responses to these questions should never be used independently to estimate the 'latent demand' for activities. Responses become meaningful only when interpreted in light of the total participation pattern, socio-economic characteristics, supply of opportunities and constraints faced by particular groups of respondents. Desired changes in participation must be related to probable changes in the circumstances faced by these individuals.

The question concerning desired participation levels was not asked for those activities in which the respondent had not yet participated. Such an exclusion followed from recommendations in the Bishop-Witt report where it was believed that resulting responses would have been largely invalid or unreliable.

A question (Question 9) was asked about the number of extra days a respondent would like to participate in present activities if his primary constraint was eliminated. By comparing the response to this question with the response to the unconstrained desired additional participation question (Question 7), the analyst should be able to develop crude estimates of the relative magnitude of various constraints that groups of respondents perceived they face with respect to individual activities. This question was restricted to presently participated in activities because of its highly hypothetical nature.

### 6.3 Weekend and Vacation Trip Preference

Questions about destinations, activities, accommodation types and reasons for choice of accommodation type were asked for preferred weekend and vacation trips. Responses to these questions are subjective and, like the activity preference data, become meaningful only when interpreted in light of observed behaviour. This series of questions, however, does provide a wealth of information that can be used to identify and to segment potential tourist markets. By combining the responses to questions about destination, activity and accommodation, tourists marketing specialists can determine which type of weekend and vacation packages have the greatest appeal. Such combined data should be useful in determining the feasibility of proposed tourism development schemes. The managers of various types of accommodation can use this data to determine the location and characteristics of their most likely customers and then direct their advertisements towards these people.

## APPENDIX A

### EXAMPLES OF A COMPUTED CASE WEIGHT AND A TRIP IMPUTATION FACTOR

#### 1. COMPUTING ONE CASE WEIGHT: AN EXAMPLE

This section outlines the computation of one actual weight used in the ORS estimation procedure. Each case (completed interview) has a unique weight.

##### 1.1 Given:

A completed interview in Ottawa stratum (stratum 1), month of May, (month 5) replicate 1, and in age-sex class of male, 50 to 64 years. (age-sex class = 4). Thus  $r = 1$ ,  $m = 5$ ,  $h = 1$ ,  $a = 4$ .

Also, the following data:

1. Number of households in selected EA ( $N_{hi}$ ) = 150
2. Number of households sampled in selected EA ( $n_{hi}$ ) = 5
3. Number of people in household selected = 3
4. Person selected in household = 1st (i.e., random number for selection is 10)
5. Total EAs in Ottawa stratum ( $N_h$ ) = 589
6. Number of EAs sampled per month in Ottawa stratum ( $n_h$ ) = 10
7. Number of EAs sampled per month per replicate in Ottawa stratum ( ${}^m n_h$ ) = 5
8. Number of households sampled per month per replicate in Ottawa stratum ( ${}^m S_h$ ) = 25
9. Number of households interviewed in May in replicate one in Ottawa stratum ( ${}^m S'_h$ ) = 24
10. 1971 census population of Ottawa stratum ( $P_{71h}$ ) = 237,835
11. 1971 census population of males age 50-64 years in Ottawa stratum ( $P_{71ha}$ ) = 20,455
12. October 1, 1973 estimate of Ontario population of males age 50 to 64 years ( $P_{73a}$ ) = 515,980

## 1.2 Solution:

Thus, the basic weight for this case is

$$\begin{aligned}
 & \frac{\text{Total number of EAs in Ottawa stratum}}{\text{Number of EAs selected in Ottawa stratum in May in replicate 1}} \\
 \times & \frac{\text{number of households in selected EA}}{\text{number of households sampled in selected EA}} \\
 \times & \frac{1}{\text{probability of selection of 1st person in household of 3 people}}
 \end{aligned}$$

$$\begin{aligned}
 & = \frac{N_h}{rm_{n_h}} \cdot \frac{N_{hi}}{n_{hi}} \cdot \frac{1}{\pi_{hijk}} = rm_{w_{hijk}} \\
 & = \frac{589}{5} \times \frac{150}{5} \times \frac{1}{.4} = 8,835.00
 \end{aligned}$$

Also, non-response adjustment factor is:

$$\begin{aligned}
 & \frac{\# \text{ of households in sample in Ottawa stratum in May in replicate 1}}{\# \text{ of households interviewed in Ottawa stratum in May in replicate 1}} \\
 & = \frac{rm_{S_h}}{rm_{S'_h}} = \frac{25}{24} = 1.042
 \end{aligned}$$

The basic weight is multiplied times the non-response adjustment factor for each respondent and sample estimates of the population are obtained by summing the resulting products. Two sample estimates of concern in the example are:

1. Estimate of the sample for the Ottawa stratum in May of all age-sex classes ( $\hat{P}_{73h}$ )

$$= 227,864.23$$

2. Estimate of the sample for the Ottawa stratum in May of males age 50 to 64 years ( $\hat{P}_{73ha}$ )

$$= 16,881.24$$

Thus, the age-sex correction factor for the given case is the

$$\begin{aligned}
 & \frac{\text{sum of Ottawa stratum for May of all age-sex classes}}{\text{1971 census population of Ottawa stratum}} \\
 \times & \frac{\text{1971 census population of males age 50-64 years in Ottawa stratum}}{\text{sum of Ottawa stratum for May of males age 50-64 years}}
 \end{aligned}$$

$$= \frac{\hat{p}_{73h}}{p_{71h}} \cdot \frac{p_{71ha}}{\hat{p}_{73ha}} = A_{73ha}$$

$$= \frac{227,864.23}{237,835} \times \frac{20,455}{16,881.24} = 1.161$$

By multiplying the basic weight by the non-response adjustment factor and by the age-sex correction factor (for each respondent), and then by summing the resulting products (for all respondents), sample estimates of the Ontario population ( $p_{73a}$ ) are obtained. Thus, the population slippage factor in the example is:

Oct. 1, 1973 estimate of Ontario population of males age 50-64  
sample estimate of Ontario population of males age 50-64

$$= \frac{p_{73a}}{\hat{p}_{73a}} = B_{73a}$$

$$= \frac{515,980}{488,101.398} = 1.057$$

Now, the case weight is obtained by multiplying the basic weight by the non-response adjustment factor, age-sex correction factor, and population slippage factor:

$$\text{Case weight} = {}^{rm}w_{hijk}^* = {}^{rm}w_{hijk} \times \frac{S_h}{S'_h} \times A_{73ha} \times B_{73a}$$

$$= 11,297.48$$

The weighting procedure used in the ORS is such that the sum of the weights of each replicate in each month is an estimate of the stratum population. Since there are 24 such estimates in the ORS (i.e. two for each of 12 months), the case weight is divided by 24 to account for this. So that the example is easy to follow, all estimates of totals given at intermediate points in it are adjusted for the number of months and replicates that they span (they are all of the same magnitude). Hence, the case weight of the example on the ORS tape is:

$$11,297.48 \div 24 = 470.73$$

## 2. CONSTRUCTING A TRIP IMPUTATION FACTOR: AN EXAMPLE

### 2.1 Given:

A matrix of the number of trips known in detail for sample ( $t'_{ij}$ ) (p. 11, Question 5 of the questionnaire or p. 15, Question 5).

<u>Origins</u>	<u>Destinations</u>			<u>Totals (<math>T'_i</math>)</u>
	<u>D<sub>1</sub></u>	<u>D<sub>2</sub></u>	<u>D<sub>3</sub></u>	
O <sub>1</sub>	47	8	23	78
O <sub>2</sub>	21	16	45	82
O <sub>3</sub>	7	18	44	69
				<hr/> 229

A matrix for which only origins and destinations are known for sample ( $t_{ij}$ ) (p. 14, Question 23 or p. 18, Question 23 of the questionnaire).

<u>Origins</u>	<u>Destinations</u>			<u>Totals (<math>T_i</math>)</u>
	<u>D<sub>1</sub></u>	<u>D<sub>2</sub></u>	<u>D<sub>3</sub></u>	
O <sub>1</sub>	48	3	11	62
O <sub>2</sub>	13	6	27	46
O <sub>3</sub>	8	16	38	62
				<hr/> 170

Total trips taken across sample (p. 14, Question 21 or p. 18, Question 21 of the questionnaire).

$$T'_1 = 175$$

$$T'_2 = 141$$

$$T'_3 = 139$$

## 2.2 Solution:

$$\begin{aligned} I_{11} &= 1 + \frac{1}{t'_{ij}} \cdot \frac{t_{ij}}{T_i} \cdot (T'_i - T''_i) \\ &= 1 + \frac{1}{47} \cdot \frac{48}{62} (175 - 78) = 2.598 \end{aligned}$$

$$I_{12} = 1 + \frac{1}{8} \cdot \frac{3}{62} (175 - 78) = 1.587$$

$$I_{13} = 1 + \frac{1}{23} \cdot \frac{11}{62} (175 - 78) = 1.748$$

$$I_{21} = 1 + \frac{1}{21} \cdot \frac{13}{46} (141 - 82) = 1.794$$

$$I_{22} = 1 + \frac{1}{16} \cdot \frac{6}{46} (141 - 82) = 1.481$$

$$I_{23} = 1 + \frac{1}{45} \cdot \frac{27}{46} (141 - 82) = 1.770$$

$$I_{31} = 1 + \frac{1}{7} \cdot \frac{8}{62} (139 - 69) = 2.290$$

$$I_{32} = 1 + \frac{1}{18} \cdot \frac{16}{62} (139 - 69) = 2.004$$

$$I_{33} = 1 + \frac{1}{44} \cdot \frac{38}{62} (139 - 69) = 1.975$$

By multiplying the appropriate number of detailed trips (i.e. multiplying  $I_{ij}$  by  $t'_{ij}$ ) trip population estimates ( $\hat{t}'_{ij}$ ) are:

<u>Origins</u>	<u>Destinations</u>			<u>Totals</u>
	<u>D<sub>1</sub></u>	<u>D<sub>2</sub></u>	<u>D<sub>3</sub></u>	
0 <sub>1</sub>	122.11	12.70	40.20	175.01
0 <sub>2</sub>	37.67	23.70	79.65	141.02
0 <sub>3</sub>	16.03	36.07	86.90	139.00
				<u>455.03</u>

# APPENDIX B

## 1971 ONTARIO RECREATION SURVEY (ORS) POPULATION<sup>1</sup>

### Stratum 1: Ottawa

	MALE	FEMALE
Age 12-19	23,190	23,190
20-34	35,025	34,970
35-49	25,620	27,620
50-64	20,455	23,930
65 or more	8,695	15,145
Total	<u>112,985</u>	<u>124,850</u>

### Stratum 2: St. Lawrence Area (Non-large Urban)

Age 12-19	36,150	34,195
20-34	45,040	44,965
35-49	37,105	36,740
50-64	25,830	25,810
65 or more	14,165	17,360
Total	<u>158,295</u>	<u>159,060</u>

### Stratum 3: Kingston - Peterborough

Age 12-19	9,175	9,090
20-34	13,865	13,920
35-49	9,920	10,600
50-64	7,780	8,695
65 or more	3,780	6,125
Total	<u>44,525</u>	<u>48,420</u>

### Stratum 4: Eastern Lake Ontario (Non-large Urban)

Age 12-19	30,595	28,460
20-34	32,780	31,870
35-49	30,015	29,580
50-64	23,395	23,225
65 or more	14,325	16,390
Total	<u>131,115</u>	<u>129,525</u>

<sup>1</sup> 1971 Census population with deletion of EAs with less than 75 households, Indian reserves and collectives.

Stratum 5: Western Lake Ontario (Large Urban)

	MALE	FEMALE
Age 12-19	71,895	69,460
20-34	105,685	106,910
35-49	91,840	90,205
50-64	56,305	57,605
65 or more	26,900	37,320
Total	352,630	361,505

Stratum 6: Western Lake Ontario (Non-large Urban)

Age 12-19	61,800	58,075
20-34	75,655	75,490
35-49	71,735	69,430
50-64	44,440	43,260
65 or more	22,435	27,375
Total	276,060	273,625

Stratum 7: Metro Toronto

Age 12-19	136,950	135,750
20-34	256,805	262,065
35-49	207,825	202,880
50-64	134,265	142,825
65 or more	64,010	96,465
Total	799,855	839,985

Stratum 8: Southwestern Ontario (Large Urban)

Age 12-19	52,640	51,650
20-34	80,985	81,385
35-49	61,495	62,255
50-64	42,120	45,625
65 or more	23,005	32,520
Total	260,245	273,440

Stratum 9: Southwestern Ontario (Non-large Urban)

	MALE	FEMALE
Age 12-19	65,945	62,115
20-34	79,865	76,020
35-49	66,280	65,885
50-64	52,975	54,070
65 or more	33,830	40,925
Total	298,900	299,025

Stratum 10: Georgian Bay Area

Age 12-19	37,010	34,610
20-34	40,660	39,020
35-49	35,920	35,710
50-64	32,370	33,465
65 or more	23,720	26,545
Total	169,680	169,350

Stratum 11: Northern Ontario (Large Urban)

Age 12-19	22,575	26,990
20-34	37,380	35,760
35-49	30,190	29,065
50-64	20,510	20,360
65 or more	9,600	10,885
Total	125,255	123,060

Stratum 12: Northern Ontario (Non-large Urban)

Age 12-19	37,345	34,905
20-34	41,210	39,665
35-49	33,835	31,395
50-64	23,935	22,110
65 or more	12,500	11,210
Total	148,825	139,285

## APPENDIX C

### THE VARIABLE LIST FOR THE ONTARIO RECREATION SURVEY

Each of the variables from the ORS was given a code number in order that it could be easily referenced during analysis. The first 1,016 of these item code numbers correspond sequentially to the ORS questionnaire (Ontario Recreation Survey, Survey Documents, 1973). The remaining item numbers refer to variables that were created to facilitate analysis.

Item Number	Range of Values	Variable Description
1	-	Interview Number (blanked out to ensure confidentiality)
2	01	Card Number
3	01-52	Respondent's City/Town/Village
4	001-240	Interview Length (minutes)
5	-	Electoral District (blanked out to ensure confidentiality)
6	-	Enumeration Area (blanked out to ensure confidentiality)
7	1-12	Strata Number
8	1-7	Day of Interview
9	01-31	Date of Interview
10	1-12	Month of Interview
11	1973-74*	Year of Interview
12	1-5	Outcome of Contacts
13	0-6	Relation of Household Member 1 (M1)
14	1-98	Age of M1
15	0-2	Sex of M1
16	0-2	Work Status of M1
17	0-2	M1 at College or University
18	0-6	Relation of Household Member 2 (M2)
19	0-98	Age of M2
20	0-2	Sex of M2
21	0-2	Work Status of M2
22	0-2	M2 at College or University
23	0-6	Relation of Household Member 3 (M3)
24	0-98	Age of M3
25	0-2	Sex of M3
26	0-2	Work Status of M3
27	0-2	M3 at College or University
28	0-6	Relation of Household Member 4 (M4)
29	0-98	Age of M4
30	0-2	Sex of M4
31	0-2	Work Status of M4
32	0-2	M4 at College or University
33	0-6	Relation of Household Member 5 (M5)
34	0-98	Age of M5
35	0-2	Sex of M5
36	0-2	Work Status of M5
37	0-2	M5 at College or University

\* see Appendix E, Section 4 for explanation of out of range values.

Item Number	Range of Values	Variable Description
38	0-6	Relation of Household Member 6 (M6)
39	0-98	Age of M6
40	0-2	Sex of M6
41	0-2	Work Status of M6
42	0-2	M6 at College or University
43	0-6	Relation of Household Member 7 (M7)
44	0-98	Age of M7
45	0-2	Sex of M7
46	0-2	Work Status of M7
47	0-2	M7 at College or University
48	-	Interview number (blanked out)
49	02	Card Number
50	0-6	Relation of Household Member 8 (M8)
51	0-98	Age of M8
52	0-2	Sex of M8
53	0-2	Work Status of M8
54	0-2	M8 at College or University
55	0-6	Relation of Household Member 9 (M9)
56	0-98	Age of M9
57	0-2	Sex of M9
58	0-2	Work Status of M9
59	0-2	M9 at College or University
60	0-6	Relation of Household Member 10 (M10)
61	0-98	Age of M10
62	0-2	Sex of M10
63	0-2	Work Status of M10
64	0-2	M10 at College or University
65	1-15	Number in Household
66	1-15	Number in Household 12 Years & Older
67	01-10	Respondent Selection Number
68	01-10	Household Member Selected

#### GENERAL ACTIVITY PARTICIPATION QUESTIONS

69	0-1*	Swimming - Past 12 Months
70	0-1	Swimming - Past 3 Months
71	0-1	Motor Boating - Past 12 Months
72	0-1	Motor Boating - Past 3 Months
73	0-1	Canoeing - Past 12 Months
74	0-1	Canoeing - Past 3 Months
75	0-1	Sailing - Past 12 Months
76	0-1	Sailing - Past 3 Months
77	0-1	Other Boating - Past 12 Months
78	0-1	Other Boating - Past 3 Months
79	0-1	Fishing - Past 12 Months
80	0-1	Fishing - Past 3 Months
81	0-1	Water-skiing - Past 12 Months
82	0-1	Water-skiing - Past 3 Months
83	0-1	Picnicking - Past 12 Months
84	0-1	Picnicking - Past 3 Months

\* see Appendix E, Section 4 for explanation of out of range values for all variables indicating participation (or not) during the past 12 months.

Item Number	Range of Values	Variable Description
85	0-1	Big Game Hunting - Past 12 Months
86	0-1	Big Game Hunting - Past 3 Months
87	0-1	Small Game Hunting - Past 12 Months
88	0-1	Small Game Hunting - Past 3 Months
89	0-1	Waterfowl Hunting - Past 12 Months
90	0-1	Waterfowl Hunting - Past 3 Months
91	0-1	Snowshoeing - Past 12 Months
92	0-1	Snowshoeing - Past 3 Months
93	0-1	Cross-country Skiing - Past 12 Months
94	0-1	Cross-country Skiing - Past 3 Months
95	0-1	Downhill Skiing - Past 12 Months
96	0-1	Downhill Skiing - Past 3 Months
97	0-1	Recreational Driving - Past 12 Months
98	0-1	Recreational Driving - Past 3 Months
99	0-1	Recreational Bicycling - Past 12 Months
100	0-1	Recreational Bicycling - Past 3 Months
101	0-1	Recreational Motorcycling - Past 12 Months
102	0-1	Recreational Motorcycling - Past 3 Months
103	0-1	Recreational Trail-biking - Past 12 Months
104	0-1	Recreational Trail-biking - Past 3 Months
105	0-1	Recreational Snowmobiling - Past 12 Months
106	0-1	Recreational Snowmobiling - Past 3 Months
107	0-1	Hiking - Past 12 Months
108	0-1	Hiking - Past 3 Months
109	0-1	Recreational Walking - Past 12 Months
110	0-1	Recreational Walking - Past 3 Months
111	0-1	Visiting a Zoo or Botanical Garden - Past 12 Months
112	0-1	Visiting a Zoo or Botanical Garden - Past 3 Months
113	0-1	Visiting Nature Displays or Exhibits - Past 12 Months
114	0-1	Visiting Nature Displays or Exhibits - Past 3 Months
115	-	Interview Number (blanked out)
116	03	Card Number
117	0-1	Going on a Guided Nature Tour - Past 12 Months
118	0-1	Going on a Guided Nature Tour - Past 3 Months
119	0-1	Viewing or Photographing Birds, Animals or Fish in their Natural Surroundings - Past 12 Months
120	0-1	Viewing or Photographing Birds, Animals or Fish in their Natural Surroundings - Past 3 Months
121	0-1	Viewing, Photographing or Collecting Plants in their Natural Surroundings - Past 12 Months
122	0-1	Viewing, Photographing or Collecting Plants in their Natural Surroundings - Past 3 Months
123	0-1	Viewing, Photographing or Collecting Rocks in their Natural Surroundings - Past 12 Months
124	0-1	Viewing, Photographing or Collecting Rocks in their Natural Surroundings - Past 3 Months

Item Number	Range of Values	Variable Description
125	0-1	Visiting a Developed Historic Site or Display - Past 12 Months
126	0-1	Visiting a Developed Historic Site or Display - Past 3 Months
127	0-1	Visiting a Museum or Art Gallery - Past 12 Months
128	0-1	Visiting a Museum or Art Gallery - Past 3 Months
129	0-1	Attending a Sporting Event as a Spectator - Past 12 Months
130	0-1	Attending a Sporting Event as a Spectator - Past 3 months
131	0-1	Attending a Live Theatre or Concert Performance - Past 12 Months
132	0-1	Attending a Live Theatre or Concert Performance - Past 3 Months
133	0-1	Attending a Special Event - Past 12 Months
134	0-1	Attending a Special Event - Past 3 Months
135	0-1	Visiting a Private Cottage, Chalet, Hobby Farm - Past 12 Months
136	0-1	Visiting a Private Cottage, Chalet, Hobby Farm - Past 3 Months
137	0-1	Camping - Past 12 Months
138	0-1	Camping - Past 3 Months
139	0-1	Golfing - Past 12 Months
140	0-1	Golfing - Past 3 Months
141	0-1	Tennis - Past 12 Months
142	0-1	Tennis - Past 3 Months
143	0-1	Horseback Riding - Past 12 Months
144	0-1	Horseback Riding - Past 3 Months
145	0-1	Skin or Scuba Diving - Past 12 Months
146	0-1	Skin or Scuba Diving - Past 3 Months
147	0-1	Ice Skating - Past 12 Months
148	0-1	Ice Skating - Past 3 Months
149	0-1	Tobogganing or Sledding - Past 12 Months
150	0-1	Tobogganing or Sledding - Past 3 Months
151	0-1	Curling - Past 12 Months
152	0-1	Curling - Past 3 Months
153	0-1	Ice Hockey - Past 12 Months
154	0-1	Ice Hockey - Past 3 Months
155	0-1	Baseball or Softball - Past 12 Months
156	0-1	Baseball or Softball - Past 3 Months
157	0-1	Football (Canadian) - Past 12 Months
158	0-1	Football (Canadian) - Past 3 Months
159	0-1	Soccer - Past 12 Months
160	0-1	Soccer - Past 3 Months
161	0-1	Basketball - Past 12 Months
162	0-1	Basketball - Past 3 Months
163	0,47-73	Specified Other Activity 1
164	0-1	Other Activity 1 - Past 12 Months
165	0-1	Other Activity 1 - Past 3 Months
166	0,47-73	Specified Other Activity 2

Item Number	Range of Values	Variable Description
167	0-1	Other Activity 2 - Past 12 Months
168	0-1	Other Activity 2 - Past 3 Months
169	0,47-73	Specified Other Activity 3
170	0-1	Other Activity 3 - Past 12 Months
171	0-1	Other Activity 3 - Past 3 Months
172	0,47-73	Specified Other Activity 4
173	0-1	Other Activity 4 - Past 12 Months
174	0-1	Other Activity 4 - Past 3 Months

#### DETAILED ACTIVITY PARTICIPATION QUESTIONS

175	-	Interview Number (blanked out)
176	04	Card Number
177	0-3	Swimming - Environment
178	0-9	Swimming - Day of Week
179	0-2	Swimming - Overnight Trip (or not)
180	0-2	Swimming - Vacation (or not)
181	0-95	Swimming - Location
182	0-9	Swimming - Jurisdiction
183	0-93	Swimming - Total Number of Days, Lower Range
184	0-93	Swimming - Total Number of Days, Upper Range (or exact number)
185	0-93	Swimming - Number of Non-home Based Days
186	0-4	Recreational Boating - Type
187	0-2	Recreational Boating - Cabin (or not)
188	0-9	Recreational Boating - Day of Week
189	0-2	Recreational Boating - Overnight Trip (or not)
190	0-2	Recreational Boating - Vacation (or not)
191	0-95	Recreational Boating - Location
192	0-9	Recreational Boating - Jurisdiction
193	0-93	Recreational Boating - Total Number of Days, Lower Range
194	0-93	Recreational Boating - Total Number of Days, Upper Range (or exact number)
195	0-93	Recreational Boating - Number of Non-home Based Days
196	0-2	Fishing - Rod and Reel (or not)
197	0-4	Fishing - Area Fished in
198	0-3	Fishing - From Where
199	0-98	Fishing - Species
200	0-9	Fishing - Day of Week
201	0-2	Fishing - Overnight Trip (or not)
202	0-2	Fishing - Vacation (or not)
203	0-95	Fishing - Location
204	0-9	Fishing - Jurisdiction
205	0-93	Fishing - Total Number of Days, Lower Range
206	0-93	Fishing - Total Number of Days, Upper Range (or exact number)
207	0-93	Fishing - Number of Non-home Based Days
208	0-9	Water-skiing - Day of Week
209	0-2	Water-skiing - Overnight Trip (or not)

Item Number	Range of Values	Variable Description
210	0-2	Water-skiing - Vacation (or not)
211	0-95	Water-skiing - Location
212	0-9	Water-skiing - Jurisdiction
213	-	Interview Number (blanked out)
214	05	Card Number
215	0-93	Water-skiing - Total Number of Days, Lower Range
216	0-93	Water-skiing - Total Number of Days, Upper Range (or exact number)
217	0-93	Water-skiing - Number of Non-home Based Days
218	0-9	Picnicking - Day of Week
219	0-2	Picnicking - Overnight Trip (or not)
220	0-2	Picnicking - Vacation (or not)
221	0-95	Picnicking - Location
222	0-9	Picnicking - Jurisdiction
223	0-93	Picnicking - Total Number of Days, Lower Range
224	0-93	Picnicking - Total Number of Days, Upper Range (or exact number)
225	0-93	Picnicking - Number of Non-home Based Days
226	0-3	Hunting - Type
227	0-9	Hunting - Day of Week
228	0-2	Hunting - Overnight Trip (or not)
229	0-2	Hunting - Vacation (or not)
230	0-95	Hunting - Location
231	0-9	Hunting - Jurisdiction
232	0-93	Hunting - Total Number of Days, Lower Range
233	0-93	Hunting - Total Number of Days, Upper Range (or exact number)
234	0-93	Hunting - Number of Non-home Based Days
235	0-2	Snowshoeing and Cross-country Skiing - Type
236	0-2	Snowshoeing and Cross-country Skiing - On Trail (or not)
237	0-9	Snowshoeing and Cross-country Skiing - Day of Week
238	0-2	Snowshoeing and Cross-country Skiing - Overnight Trip (or not)
239	0-2	Snowshoeing and Cross-country Skiing - Vacation (or not)
240	0-95	Snowshoeing and Cross-country Skiing - Location
241	0-9	Snowshoeing and Cross-country Skiing - Jurisdiction
242	0-93	Snowshoeing and Cross-country Skiing - Total Number of Days, Lower Range
243	0-93	Snowshoeing and Cross-country Skiing - Total Number of Days, Upper Range (or exact number)
244	0-93	Snowshoeing and Cross-country Skiing - Number of Non-home Based Days

Item Number	Range of Values	Variable Description
245	0-9	Downhill Skiing - Day of Week
246	0-2	Downhill Skiing - Overnight Trip (or not)
247	0-2	Downhill Skiing - Vacation (or not)
248	0-95	Downhill Skiing - Location
249	0-9	Downhill Skiing - Jurisdiction
250	-	Interview Number (blanked out)
251	06	Card Number
252	0-93	Downhill Skiing - Total Number of Days, Lower Range
253	0-93	Downhill Skiing - Total Number of Days, Upper Range (or exact number)
254	0-93	Downhill Skiing - Number of Non-home Based Days
255	0-9	Recreational Driving - Day of Week
256	0-2	Recreational Driving - Overnight Trip (or not)
257	0-2	Recreational Driving - Vacation (or not)
258	0-95	Recreational Driving - Location
259	0-93	Recreational Driving - Total Number of Days, Lower Range
260	0-93	Recreational Driving - Total Number of Days, Upper Range (or exact number)
261	0-93	Recreational Driving - Number of Non-home Based Days
262	0-3	Recreational Cycling - Type
263	0-9	Recreational Cycling - Day of Week
264	0-2	Recreational Cycling - Overnight Trip (or not)
265	0-2	Recreational Cycling - Vacation (or not)
266	0-95	Recreational Cycling - Location
267	0-93	Recreational Cycling - Total Number of Days, Lower Range
268	0-93	Recreational Cycling - Total Number of Days, Upper Range (or exact number)
269	0-93	Recreational Cycling - Number of Non-home Based Days
270	0-2	Recreational Snowmobiling - On Trail (or not)
271	0-9	Recreational Snowmobiling - Day of Week
272	0-2	Recreational Snowmobiling - Overnight Trip (or not)
273	0-2	Recreational Snowmobiling - Vacation (or not)
274	0-95	Recreational Snowmobiling - Location
275	0-9	Recreational Snowmobiling - Jurisdiction
276	0-93	Recreational Snowmobiling - Total Number of Days, Lower Range
277	0-93	Recreational Snowmobiling - Total Number of Days, Upper Range (or exact number)
278	0-93	Recreational Snowmobiling - Number of Non-home Based Days
279	0-2	Hiking - Designated Trail (or not)
280	0-9	Hiking - Day of Week
281	0-2	Hiking - Overnight Trip (or not)
282	0-2	Hiking - Vacation (or not)

Item Number	Range of Values	Variable Description
283	0-95	Hiking - Location
284	0-9	Hiking - Jurisdiction
285	0-93	Hiking - Total Number of Days, Lower Range
286	0-93	Hiking - Total Number of Days, Upper Range (or exact number)
287	0-93	Hiking - Number of Non-home Based Days
288	-	Interview Number (blanked out)
289	07	Card Number
290	0-2	Recreational Walking - Paved Surface (or not)
291	0-9	Recreational Walking - Day of Week
292	0-2	Recreational Walking - Overnight Trip (or not)
293	0-2	Recreational Walking - Vacation (or not)
294	0-95	Recreational Walking - Location
295	0-9	Recreational Walking - Jurisdiction
296	0-93	Recreational Walking - Total Number of Days, Lower Range
297	0-93	Recreational Walking - Total Number of Days, Upper Range (or exact number)
298	0-93	Recreational Walking - Number of Non-home Based Days
299	0-3	Organized Nature Appreciation - Type
300	0-9	Organized Nature Appreciation - Day of Week
301	0-2	Organized Nature Appreciation - Overnight Trip (or not)
302	0-2	Organized Nature Appreciation - Vacation (or not)
303	0-95	Organized Nature Appreciation - Location
304	0-9	Organized Nature Appreciation - Jurisdiction
305	0-93	Organized Nature Appreciation - Total Number of Days, Lower Range
306	0-93	Organized Nature Appreciation - Total Number of Days, Upper Range (or exact number)
307	0-93	Organized Nature Appreciation - Number of Non-home Based Days
308	0-3	Personal Nature Appreciation - Type
309	0-9	Personal Nature Appreciation - Means
310	0-9	Personal Nature Appreciation - Day of Week
311	0-2	Personal Nature Appreciation - Overnight Trip (or not)
312	0-2	Personal Nature Appreciation - Vacation (or not)
313	0-95	Personal Nature Appreciation - Location
314	0-9	Personal Nature Appreciation - Jurisdiction
315	0-93	Personal Nature Appreciation - Total Number of Days, Lower Range
316	0-93	Personal Nature Appreciation - Total Number of Days, Upper Range (or exact number)
317	0-93	Personal Nature Appreciation - Number of Non-home Based Days
318	0-3	Historic Site - Administration
319	0-9	Historic Site - Day of Week

Item Number	Range of Values	Variable Description
320	0-2	Historic Site - Overnight Trip (or not)
321	0-2	Historic Site - Vacation (or not)
322	0-95	Historic Site - Location
323	0-93	Historic Site - Total Number of Days, Lower Range
324	0-93	Historic Site - Total Number of Days, Upper Range (or exact number)
325	0-93	Historic Site - Number of Non-home Based Days
326	-	Interview Number (blanked out)
327	08	Card Number
328	0-3	Museum/Art Gallery - Administration
329	0-9	Museum/Art Gallery - Day of Week
330	0-2	Museum/Art Gallery - Overnight Trip (or not)
331	0-2	Museum/Art Gallery - Vacation (or not)
332	0-95	Museum/Art Gallery - Location
333	0-93	Museum/Art Gallery - Total Number of Days, Lower Range
334	0-93	Museum/Art Gallery - Total Number of Days, Upper Range (or exact number)
335	0-93	Museum/Art Gallery - Number of Non-home Based Days
336	0-69	Spectator Sport - Type of Event
337	0-2	Spectator Sport - Pay Admission (or not)
338	0-9	Spectator Sport - Day of Week
339	0-2	Spectator Sport - Overnight Trip (or not)
340	0-2	Spectator Sport - Vacation (or not)
341	0-95	Spectator Sport - Location
342	0-93	Spectator Sport - Total Number of Days, Lower Range
343	0-93	Spectator Sport - Total Number of Days, Upper Range (or exact number)
344	0-93	Spectator Sport - Number of Non-home Based Days
345	0-2	Live Theatre/Concert - Indoor or Outdoor
346	0-2	Live Theatre/Concert - Student Performance (or not)
347	0-9	Live Theatre/Concert - Day of Week
348	0-2	Live Theatre/Concert - Overnight Trip (or not)
349	0-2	Live Theatre/Concert - Vacation (or not)
350	0-95	Live Theatre/Concert - Location
351	0-93	Live Theatre/Concert - Total Number of Days, Lower Range
352	0-93	Live Theatre/Concert - Total Number of Days, Upper Range (or exact number)
353	0-93	Live Theatre/Concert - Number of Non-home Based Days
354	0-79	Special Event - Name of Event
355	0-9	Special Event - Day of Week
356	0-2	Special Event - Overnight Trip (or not)
357	0-2	Special Event - Vacation (or not)
358	0-95	Special Event - Location
359	0-93	Special Event - Total Number of Days, Lower Range

Item Number	Range of Values	Variable Description
360	0-93	Special Event - Total Number of Days, Upper Range (or exact number)
361	0-93	Special Event - Total of Non-home Based Days
362	-	Interview Number (blanked out)
363	09	Card Number
364	0-95	Private Cottage, Chalet, Hobby Farm - Location
365	0-2	Private Cottage, Chalet, Hobby Farm - Overnight Stay (or not)
366	0-3	Private Cottage, Chalet, Hobby Farm - Tenure Type
367	0-93	Private Cottage, Chalet, Hobby Farm - Total Number of Days, Lower Range
368	0-93	Private Cottage, Chalet, Hobby Farm - Total Number of Days, Upper Range (or exact number)
369	0-2	Camping - Mode
370	0-2	Camping - In Ontario (or not)
371	0-2	Camping - In Commercial Area (or not)
372	0-93	Camping - Number of Nights, Commercial
373	0-2	Camping - Provincial Area (or not)
374	0-93	Camping - Number of Nights in Provincial Area
375	0-2	Camping - Crown Land (or not)
376	0-93	Camping - Number of Nights on Crown Land
377	0-2	Camping - Other Area
378	0-93	Camping - Number of Nights in Other Areas
379	0-1	Camping - "Don't Know" Area
380	0-93	Camping - Number Nights in Unknown Area
381	0-2	Camping - Wilderness Camping (or not)
382	0-93	Camping - Number Nights Wilderness Camping
383	0-93	Camping - Total Nights Camped, Lower Range
384	0-93	Camping - Total Nights Camped, Upper Range (or exact number)
385	0-93	Camping - Nights Outside Ontario
386	0-73	Specification of Other Activity - Last Done
387	0-2	Other Activity - Done Indoors (or not)
388	0-95	Other Activity - Location
389	0-9	Other Activity - Jurisdiction
390	0-93	Golfing - Total Number of Days, Lower Range
391	0-93	Golfing - Total Number of Days, Upper Range (or exact number)
392	0-93	Golfing - Number of Non-home Based Days
393	0-93	Tennis - Total Number of Days, Lower Range
394	0-93	Tennis - Total Number of Days, Upper Range (or exact number)
395	0-93	Tennis - Number of Non-home Based Days
396	0-93	Horseback Riding - Total Number of Days, Lower Range
397	0-93	Horseback Riding - Total Number of Days, Upper Range (or exact number)
398	0-93	Horseback Riding - Number of Non-home Based Days
399	0-93	Skin/Scuba Diving - Total Number of Days, Lower Range

Item Number	Range of Values	Variable Description
400	0-93	Skin/Scuba Diving - Total Number of Days, Upper Range (or exact number)
401	0-93	Skin/Scuba Diving - Number of Non-home Based Days
402	-	Interview Number (blanked out)
403	10	Card Number
404	0-93	Ice Skating - Total Number of Days, Lower Range
405	0-93	Ice Skating - Total Number of Days, Upper Range (or exact number)
406	0-93	Ice Skating - Number of Non-home Based Days
407	0-93	Tobogganing/Sledding - Total Number of Days, Lower Range
408	0-93	Tobogganing/Sledding - Total Number of Days, Upper Range (or exact number)
409	0-93	Tobogganing/Sledding - Number of Non-home Based Days
410	0-93	Curling - Total Number of Days, Lower Range
411	0-93	Curling - Total Number of Days, Upper Range (or exact number)
412	0-93	Curling - Number of Non-home Based Days
413	0-93	Ice Hockey - Total Number of Days, Lower Range
414	0-93	Ice Hockey - Total Number of Days, Upper Range (or exact number)
415	0-93	Ice Hockey - Number of Non-home Based Days
416	0-93	Baseball/Softball - Total Number of Days, Lower Range
417	0-93	Baseball/Softball - Total Number of Days, Upper Range (or exact number)
418	0-93	Baseball/Softball - Number of Non-home Based Days
419	0-93	Football - Total Number of Days, Lower Range
420	0-93	Football - Total Number of Days, Upper Range (or exact number)
421	0-93	Football - Number of Non-home Based Days
422	0-93	Soccer - Total Number of Days, Lower Range
423	0-93	Soccer - Total Number of Days, Upper Range (or exact number)
424	0-93	Soccer - Number of Non-home Based Days
425	0-93	Basketball - Total Number of Days, Lower Range
426	0-93	Basketball - Total Number of Days, Upper Range (or exact number)
427	0-93	Basketball - Number of Non-home Based Days
428	0,47-73	Specified Other Activity 1
429	0-93	Other Activity 1 - Total Number of Days, Lower Range
430	0-93	Other Activity 1 - Total Number of Days, Upper Range (or exact number)
431	0-93	Other Activity 1 - Number of Non-home Based Days
432	0,47-73	Specified Other Activity 2

Item Number	Range of Values	Variable Description
433	0-93	Other Activity 2 - Total Number of Days, Lower Range
434	0-93	Other Activity 2 - Total Number of Days, Upper Range (or exact number)
435	0-93	Other Activity 2 - Number of Non-home Based Days
436	0,47-73	Specified Other Activity 3
437	0-93	Other Activity 3 - Total Number of Days, Lower Range
438	0-93	Other Activity 3 - Total Number of Days, Upper Range (or exact number)
439	0-93	Other Activity 3 - Number of Non-home Based Days
440	0-93	Interview Number (blanked out)
441	11	Card Number
442	0,47-73	Specified Other Activity 4
443	0-93	Other Activity 4 - Total Number of Days, Lower Range
444	0-93	Other Activity 4 - Total Number of Days, Upper Range (or exact number)
445	0-93	Other Activity 4 - Number of Non-home Based Days

#### WEEKEND TRIPS

446	1-2	Weekend Trip - Past 12 Months (or not)
447	0-52	Number of Weekend Trips - Past 12 Months
448	0-2	Weekend Trip - Past 3 Months (or not)
449	0-12	Last Weekend Trip - Month
450	0-31	Last Weekend Trip - Date
451	0-9	Last Weekend Trip - Day of Week
452	0-95	Main Destination
453	0-64	Border Crossing or Airport
454	0-4	Number Nights Outside Ontario
455	0-8	Party Composition
456	0-9	Number of People in Party
457	0-4	Total Number Nights Away from Home
458	0-8	Total Number of Trip Segments
459	0,1	Segment One
460	0-95	Origin Weekend Segment One (WS1)
461	0-95	Destination (WS1)
462	0-7	Transportation (WS1)
463	0-17	Accommodation (WS1)
464	0-4	Number of Nights (WS1)
465	0,2	Segment Two
466	0-95	Origin (WS2)
467	0-95	Destination (WS2)
468	0-7	Transportation (WS2)
469	0-17	Accommodation (WS2)
470	0-4	Number of Nights (WS2)

Item Number	Range of Values	Variable Description
471	0,3	Segment Three
472	0-95	Origin (WS3)
473	-	Interview Number (blanked out)
474	12	Card Number
475	0-95	Destination (WS3)
476	0-7	Transportation (WS3)
477	0-17	Accommodation (WS3)
478	0-4	Number of Nights (WS3)
479	0,4	Segment Four
480	0-95	Origin (WS4)
481	0-95	Destination (WS4)
482	0-7	Transportation (WS4)
483	0-17	Accommodation (WS4)
484	0-4	Number of Nights (WS4)
485	0,5	Segment Five
486	0-95	Origin (WS5)
487	0-95	Destination (WS5)
488	0-7	Transportation (WS5)
489	0-17	Accommodation (WS5)
490	0-4	Number of Nights (WS5)
491	0,6	Segment Six
492	0-95	Origin (WS6)
493	0-95	Destination (WS6)
494	0-7	Transportation (WS6)
495	0-17	Accommodation (WS6)
496	0-4	Number of Nights (WS6)
497	0,7	Segment Seven
498	0-95	Origin (WS7)
499	0-95	Destination (WS7)
500	0-7	Transportation (WS7)
501	0-17	Accommodation (WS7)
502	0-4	Number of Nights (WS7)
503	0,8	Segment Eight
504	-	Interview Number (blanked out)
505	13	Card Number
506	0-95	Origin (WS8)
507	0-95	Destination (WS8)
508	0-7	Transportation (WS8)
509	0-17	Accommodation (WS8)
510	0-4	Number of Nights (WS8)

LAST WEEKEND TRIP - ACTIVITIES

511	0-83	Activity 1 - Name
512	0-8	Activity 1 - Segment Number
513	0-2	Activity 1 - En Route/Destination
514	0-5	Activity 1 - Number of Days
515	0-83	Activity 2 - Name
516	0-8	Activity 2 - Segment Number
517	0-2	Activity 2 - En Route/Destination
518	0-5	Activity 2 - Number of Days

Item Number	Range of Values	Variable Description
519	0-83	Activity 3 - Name
520	0-8	Activity 3 - Segment Number
521	0-2	Activity 3 - En Route/Destination
522	0-5	Activity 3 - Number of Days
523	0-83	Activity 4 - Name
524	0-8	Activity 4 - Segment Number
525	0-2	Activity 4 - En Route/Destination
526	0-5	Activity 4 - Number of Days
527	0-83	Activity 5 - Name
528	0-8	Activity 5 - Segment Number
529	0-2	Activity 5 - En Route/Destination
530	0-5	Activity 5 - Number of Days
531	0-83	Activity 6 - Name
532	0-8	Activity 6 - Segment Number
533	0-2	Activity 6 - En Route/Destination
534	0-5	Activity 6 - Number of Days
535	0-83	Activity 7 - Name
536	0-8	Activity 7 - Segment Number
537	0-2	Activity 7 - En Route/Destination
538	0-5	Activity 7 - Number of Days
539	0-83	Activity 8 - Name
540	0-8	Activity 8 - Segment Number
541	0-2	Activity 8 - En Route/Destination
542	0-5	Activity 8 - Number of Days
543	0-83	Activity 9 - Name
544	0-8	Activity 9 - Segment Number
545	0-2	Activity 9 - En Route/Destination
546	0-5	Activity 9 - Number of Days
547	0-83	Activity 10 - Name
548	0-8	Activity 10 - Segment Number
549	0-2	Activity 10 - En Route/Destination
550	0-5	Activity 10 - Number of Days
551	0-83	Activity 11 - Name
552	0-8	Activity 11 - Segment Number
553	0-2	Activity 11 - En Route/Destination
554	0-5	Activity 11 - Number of Days
555	-	Interview Number (blanked out)
556	14	Card Number
557	0-83	Activity 12 - Name
558	0-8	Activity 12 - Segment Number
559	0-2	Activity 12 - En Route/Destination
560	0-5	Activity 12 - Number of Days
561	0-83	Activity 13 - Name
562	0-8	Activity 13 - Segment Number
563	0-2	Activity 13 - En Route/Destination
564	0-5	Activity 13 - Number of Days
565	0-83	Activity 14 - Name
566	0-8	Activity 14 - Segment Number
567	0-2	Activity 14 - En Route/Destination
568	0-5	Activity 14 - Number of Days
569	0-83	Activity 15 - Name
570	0-8	Activity 15 - Segment Number

Item Number	Range of Values	Variable Description
571	0-2	Activity 15 - En Route/Destination
572	0-5	Activity 15 - Number of Days
573	0-83	Activity 16 - Name
574	0-8	Activity 16 - Segment Number
575	0-2	Activity 16 - En Route/Destination
576	0-5	Activity 16 - Number of Days
577	0-83	Activity 17 - Name
578	0-8	Activity 17 - Segment Number
579	0-2	Activity 17 - En Route/Destination
580	0-5	Activity 17 - Number of Days
581	0-83	Activity 18 - Name
582	0-8	Activity 18 - Segment Number
583	0-2	Activity 18 - En Route/Destination
584	0-5	Activity 18 - Number of Days
585	0-83	Activity 19 - Name
586	0-8	Activity 19 - Segment Number
587	0-2	Activity 19 - En Route/Destination
588	0-5	Activity 19 - Number of Days
589	0-83	Activity 20 - Name
590	0-8	Activity 20 - Segment Number
591	0-2	Activity 20 - En Route/Destination
592	0-5	Activity 20 - Number of Days
593	0-83	Activity 21 - Name
594	0-8	Activity 21 - Segment Number
595	0-2	Activity 21 - En Route/Destination
596	0-5	Activity 21 - Number of Days
597	0-83	Activity 22 - Name
598	0-8	Activity 22 - Segment Number
599	0-2	Activity 22 - En Route/Destination
600	0-5	Activity 22 - Number of Days
601	0-83	Activity 23 - Name
602	0-8	Activity 23 - Segment Number
603	0-2	Activity 23 - En Route/Destination
604	0-5	Activity 23 - Number of Days
605	0-83	Activity 24 - Name
606	0-8	Activity 24 - Segment Number
607	0-2	Activity 24 - En Route/Destination
608	0-5	Activity 24 - Number of Days
609	0-83	Activity 25 - Name
610	0-8	Activity 25 - Segment Number
611	0-2	Activity 25 - En Route/Destination
612	0-5	Activity 25 - Number of Days
613	-	Interview Number (blanked out)
614	15	Card Number
615	0-83	Activity 26 - Name
616	0-8	Activity 26 - Segment Number
617	0-2	Activity 26 - En Route/Destination
618	0-5	Activity 26 - Number of Days

OTHER WEEKEND TRIPS

619	0-2	Other Weekend Trips (or not)
620	0-12	Number of Other Weekend Trips

Item Number	Range of Values	Variable Description
621	0-4	2nd Last Trip - Number of Nights
622	0-95	2nd Last Trip - Main Destination
623	0-17	2nd Last Trip - Accommodation
624	0-83	2nd Last Trip - Activity 1
625	0-83	2nd Last Trip - Activity 2
626	0-83	2nd Last Trip - Activity 3
627	0-4	3rd Last Trip - Number of Nights
628	0-95	3rd Last Trip - Main Destination
629	0-17	3rd Last Trip - Accommodation
630	0-83	3rd Last Trip - Activity 1
631	0-83	3rd Last Trip - Activity 2
632	0-83	3rd Last Trip - Activity 3
633	0-4	4th Last Trip - Number of Nights
634	0-95	4th Last Trip - Main Destination
635	0-17	4th Last Trip - Accommodation
636	0-83	4th Last Trip - Activity 1
637	0-83	4th Last Trip - Activity 2
638	0-83	4th Last Trip - Activity 3

#### VACATION TRIPS

639	-	Interview Number (blanked out)
640	16	Card Number
641	1-2	Vacation Trip - Past 12 Months (or not)
642	0-15	Number of Vacation Trips - Past 12 Months
643	0-2	Vacation Trip - Past 3 Months (or not)
644	0-12	Last Vacation Trip - Month
645	0-31	Last Vacation Trip - Date
646	0-9	Last Vacation Trip - Day of Week
647	0-95	Main Destination
648	0-64	Border Crossing or Airport
649	0-98	Number of Nights Outside Ontario
650	0-8	Party Composition
651	0-8	Number of People in Party
652	0-98	Total Nights Away from Home

#### LAST VACATION TRIP - DETAILED TRIP RECORDS

653	0-10	Total Number of Trip Segments
654	0,01	Segment 1
655	0-95	Origin, Vacation Segment 1 (VS1)
656	0-95	Destination (VS1)
657	0-7	Transportation (VS1)
658	0-17	Accommodation (VS1)
659	0-98	Number of Nights (VS1)
660	0,02	Segment 2
661	0-95	Origin (VS2)
662	0-95	Destination (VS2)
663	0-7	Transportation (VS2)
664	0-17	Accommodation (VS2)
665	0-98	Number of Nights (VS2)

Item Number	Range of Values	Variable Description
666	0,03	Segment 3
667	0-95	Origin (VS3)
668	-	Interview Number (blanked out)
669	17	Card Number
670	0-95	Destination (VS3)
671	0-7	Transportation (VS3)
672	0-17	Accommodation (VS3)
673	0-98	Number of Nights (VS3)
674	0,04	Segment 4
675	0-95	Origin (VS4)
676	0-95	Destination (VS4)
677	0-7	Transportation (VS4)
678	0-17	Accommodation (VS4)
679	0-98	Number of Nights (VS4)
680	0,05	Segment 5
681	0-95	Origin (VS5)
682	0-95	Destination (VS5)
683	0-7	Transportation (VS5)
684	0-17	Accommodation (VS5)
685	0-98	Number of Nights (VS5)
686	0,06	Segment 6
687	0-95	Origin (VS6)
688	0-95	Destination (VS6)
689	0-7	Transportation (VS6)
690	0-17	Accommodation (VS6)
691	0-98	Number of Nights (VS6)
692	0,07	Segment 7
693	0-95	Origin (VS7)
694	-	Interview Number (blanked out)
695	18	Card Number
696	0-95	Destination (VS7)
697	0-7	Transportation (VS7)
698	0-17	Accommodation (VS7)
699	0-98	Number of Nights (VS7)
700	0,08	Segment 8
701	0-95	Origin (VS8)
702	0-95	Destination (VS8)
703	0-7	Transportation (VS8)
704	0-17	Accommodation (VS8)
705	0-98	Number of Nights (VS8)
706	0,09	Segment 9
707	0-95	Origin (VS9)
708	0-95	Destination (VS9)
709	0-7	Transportation (VS9)
710	0-17	Accommodation (VS9)
711	0-98	Number of Nights (VS9)
712	0,10	Segment 10
713	0-95	Origin (VS10)
714	0-95	Destination (VS10)
715	0-7	Transportation (VS10)
716	0-17	Accommodation (VS10)
717	0-98	Number of Nights (VS10)

Item Number	Range of Values	Variable Description
718	0-83	Activity 1 - Name
719	0-10	Activity 1 - Segment Number
720	0-2	Activity 1 - En Route/Destination
721	0-98	Activity 1 - Number of Days
722	-	Interview Number (blanked out)
723	19	Card Number
724	0-83	Activity 2 - Name
725	0-10	Activity 2 - Segment Number
726	0-2	Activity 2 - En Route/Destination
727	0-98	Activity 2 - Number of Days
728	0-83	Activity 3 - Name
729	0-10	Activity 3 - Segment Number
730	0-2	Activity 3 - En Route/Destination
731	0-98	Activity 3 - Number of Days
732	0-83	Activity 4 - Name
733	0-10	Activity 4 - Segment Number
734	0-2	Activity 4 - En Route/Destination
735	0-98	Activity 4 - Number of Days
736	0-83	Activity 5 - Name
737	0-10	Activity 5 - Segment Number
738	0-2	Activity 5 - En Route/Destination
739	0-98	Activity 5 - Number of Days
740	0-83	Activity 6 - Name
741	0-10	Activity 6 - Segment Number
742	0-2	Activity 6 - En Route/Destination
743	0-98	Activity 6 - Number of Days
744	0-83	Activity 7 - Name
745	0-10	Activity 7 - Segment Number
746	0-2	Activity 7 - En Route/Destination
747	0-98	Activity 7 - Number of Days
748	0-83	Activity 8 - Name
749	0-10	Activity 8 - Segment Number
750	0-2	Activity 8 - En Route/Destination
751	0-98	Activity 8 - Number of Days
752	0-83	Activity 9 - Name
753	0-10	Activity 9 - Segment Number
754	0-2	Activity 9 - En Route/Destination
755	0-98	Activity 9 - Number of Days
756	0-83	Activity 10 - Name
757	0-10	Activity 10 - Segment Number
758	0-2	Activity 10 - En Route/Destination
759	0-98	Activity 10 - Number of Days
760	0-83	Activity 11 - Name
761	0-10	Activity 11 - Segment Number
762	0-2	Activity 11 - En Route/Destination
763	0-98	Activity 11 - Number of Days
764	-	Interview Number (blanked out)
765	20	Card Number
766	0-83	Activity 12 - Name
767	0-10	Activity 12 - Segment Number
768	0-2	Activity 12 - En Route/Destination
769	0-98	Activity 12 - Number of Days

Item Number	Range of Values	Variable Description
770	0-83	Activity 13 - Name
771	0-10	Activity 13 - Segment Number
772	0-2	Activity 13 - En Route/Destination
773	0-98	Activity 13 - Number of Days
774	0-83	Activity 14 - Name
775	0-10	Activity 14 - Segment Number
776	0-2	Activity 14 - En Route/Destination
777	0-98	Activity 14 - Number of Days
778	0-83	Activity 15 - Name
779	0-10	Activity 15 - Segment Number
780	0-2	Activity 15 - En Route/Destination
781	0-98	Activity 15 - Number of Days
782	0-83	Activity 16 - Name
783	0-10	Activity 16 - Segment Number
784	0-2	Activity 16 - En Route/Destination
785	0-98	Activity 16 - Number of Days
786	0-83	Activity 17 - Name
787	0-10	Activity 17 - Segment Number
788	0-2	Activity 17 - En Route/Destination
789	0-98	Activity 17 - Number of Days
790	0-83	Activity 18 - Name
791	0-10	Activity 18 - Segment Number
792	0-2	Activity 18 - En Route/Destination
793	0-98	Activity 18 - Number of Days
794	0-83	Activity 19 - Name
795	0-10	Activity 19 - Segment Number
796	0-2	Activity 19 - En Route/Destination
797	0-98	Activity 19 - Number of Days
798	0-83	Activity 20 - Name
799	0-10	Activity 20 - Segment Number
800	0-2	Activity 20 - En Route/Destination
801	0-98	Activity 20 - Number of Days
802	0-83	Activity 21 - Name
803	0-10	Activity 21 - Segment Number
804	0-2	Activity 21 - En Route/Destination
805	0-98	Activity 21 - Number of Days
806	-	Interview Number (blanked out)
807	21	Card Number
808	0-83	Activity 22 - Name
809	0-10	Activity 22 - Segment Number
810	0-2	Activity 22 - En Route/Destination
811	0-98	Activity 22 - Number of Days
812	0-83	Activity 23 - Name
813	0-10	Activity 23 - Segment Number
814	0-2	Activity 23 - En Route/Destination
815	0-98	Activity 23 - Number of Days
816	0-83	Activity 24 - Name
817	0-10	Activity 24 - Segment Number
818	0-2	Activity 24 - En Route/Destination
819	0-98	Activity 24 - Number of Days
820	0-83	Activity 25 - Name
821	0-10	Activity 25 - Segment Number

Item Number	Range of Values	Variable Description
822	0-2	Activity 25 - En Route/Destination
823	0-98	Activity 25 - Number of Days
824	0-83	Activity 26 - Name
825	0-10	Activity 26 - Segment Number
826	0-2	Activity 26 - En Route/Destination
827	0-98	Activity 26 - Number of Days
828	0-83	Activity 27 - Name
829	0-10	Activity 27 - Segment Number
830	0-2	Activity 27 - En Route/Destination
831	0-98	Activity 27 - Number of Days
832	0-83	Activity 28 - Name
833	0-10	Activity 28 - Segment Number
834	0-2	Activity 28 - En Route/Destination
835	0-98	Activity 28 - Number of Days
836	0-83	Activity 29 - Name
837	0-10	Activity 29 - Segment Number
838	0-2	Activity 29 - En Route/Destination
839	0-98	Activity 29 - Number of Days
840	0-83	Activity 30 - Name
841	0-10	Activity 30 - Segment Number
842	0-2	Activity 30 - En Route/Destination
843	0-98	Activity 30 - Number of Days

#### OTHER VACATION TRIPS

844	-	Interview Number (blanked out)
845	22	Card Number
846	0-2	Other Vacation Trips (or not)
847	0-15	Number of Other Vacation Trips
848	0-98	2nd Last Trip - Number of Nights
849	0-95	2nd Last Trip - Main Destination
850	0-17	2nd Last Trip - Accommodation
851	0-83	2nd Last Trip - Activity 1
852	0-83	2nd Last Trip - Activity 2
853	0-83	2nd Last Trip - Activity 3
854	0-98	3rd Last Trip - Number of Nights
855	0-95	3rd Last Trip - Main Destination
856	0-17	3rd Last Trip - Accommodation
857	0-83	3rd Last Trip - Activity 1
858	0-83	3rd Last Trip - Activity 2
859	0-83	3rd Last Trip - Activity 3

#### FREE TIME ACTIVITIES YESTERDAY

860	1-2	Morning Free Time (or not)
861	0-250	Activity 1
862	0-250	Activity 2
863	0-250	Activity 3
864	0-250	Activity 4
865	0-6	Hours of Free Time
866	0-59	Part Hours (In Minutes)

Item Number	Range of Values	Variable Description
867	1-2	Afternoon Free Time (or not)
868	0-250	Activity 1
869	0-250	Activity 2
870	0-250	Activity 3
871	0-250	Activity 4
872	0-6	Hours of Free Time
873	0-59	Part Hours (In Minutes)
874	1-2	Evening Free Time (or not)
875	-	Interview Number (blanked out)
876	23	Card Number
877	0-250	Activity 1
878	0-250	Activity 2
879	0-250	Activity 3
880	0-250	Activity 4
881	0-12	Hours of Free Time
882	0-59	Part Hours (In Minutes)
883	0-20	Recreation Time in Hours
884	0-59	Recreation Time in Part Hours (Minutes)
885	1-2	Overnight Trip (or not)
886	1-2	Vacation (or not)
887	1-7	Day of Week Recalled

#### ACTIVITY PREFERENCE

888	1-2	More Participation (or not)
889	1-2	Participate Again (or not)
890	1-2	Participate in New Activities (or not)
891	0-250	Most Desired Activity For More Participation
892	0-17	Reason 1 for not participating more in Activity 1 (A-1)
893	0-17	Reason 2 for not participating more in A-1
894	0-17	Reason 3 for not participating more in A-1
895	0-365	Desired Additional Days A-1
896	0-365	Additional Days in A-1 If Not For Reason 1
897	0-250	2nd Most Desired Activity for More Participation
898	0-17	Reason 1 for not participating more in A-2
899	0-17	Reason 2 for not participating more in A-2
900	0-17	Reason 3 for not participating more in A-2
901	0-365	Desired Additional Days A-2
902	0-365	Additional Days in A-2 If Not For Reason 1
903	0-250	3rd Most Desired Activity For More Participation
904	0-17	Reason 1 for not participating more in A-3
905	0-17	Reason 2 for not participating more in A-3
906	0-17	Reason 3 for not participating more in A-3
907	0-365	Desired Additional Days A-3
908	0-365	Additional Days in A-3 If Not For Reason 1
909	-	Interview Number (blanked out)
910	24	Card Number
911	0-250	4th Most Desired Activity For More Participation

Item Number	Range of Values	Variable Description
912	0-17	Reason 1 for not participating more in A-4
913	0-17	Reason 2 for not participating more in A-4
914	0-17	Reason 3 for not participating more in A-4
915	0-365	Desired Additional Days A-4
916	0-365	Additional Days in A-4 If Not For Reason 1
917	0-250	Activity Most Desired to Participate In Again
918	0-17	Reason 1 for not participating in A-1
919	0-17	Reason 2 for not participating in A-1
920	0-17	Reason 3 for not participating in A-1
921	0-365	Desired Number Days of Participation
922	0-250	2nd Most Desired Activity to Participate In Again
923	0-17	Reason 1 for not participating in A-2
924	0-17	Reason 2 for not participating in A-2
925	0-17	Reason 3 for not participating in A-2
926	0-365	Desired Number Days of Participation
927	0-250	3rd Most Desired Activity to Participate In Again
928	0-17	Reason 1 for not participating in A-3
929	0-17	Reason 2 for not participating in A-3
930	0-17	Reason 3 for not participating in A-3
931	0-365	Desired Number Days of Participation
932	0-250	Most Preferred New Activity
933	0-17	Reason 1 for not participating in A-1
934	0-17	Reason 2 for not participating in A-1
935	0-17	Reason 3 for not participating in A-1
936	0-250	2nd Most Preferred New Activity
937	0-17	Reason 1 for not participating in A-2
938	0-17	Reason 2 for not participating in A-2
939	0-17	Reason 3 for not participating in A-2
940	0-250	3rd Most Preferred New Activity
941	-	Interview Number (blanked out)
942	25	Card Number
943	0-17	Reason 1 for not participating in A-3
944	0-17	Reason 2 for not participating in A-3
945	0-17	Reason 3 for not participating in A-3
946	1-2	Activity Substitutes (or not)
947	0-250	Less Preferred Activity 1
948	0-250	Less Preferred Activity 2
949	0-250	Less Preferred Activity 3
950	0-250	Less Preferred Activity 4

#### WEEKEND TRIP PREFERENCE

951	0-95	Preferred Weekend Trip Location
952	0-250	Preferred Weekend Trip Activity 1
953	0-250	Preferred Weekend Trip Activity 2
954	0-250	Preferred Weekend Trip Activity 3
955	1-17	Preferred Weekend Trip Accommodation
956	0-20	Reason 1 For Accommodation Choice
957	0-20	Reason 2 For Accommodation Choice
958	0-20	Reason 3 For Accommodation Choice

Item Number	Range of Values	Variable Description
<u>VACATION TRIP PREFERENCE</u>		
959	0-95	Preferred Vacation Trip Location
960	0-250	Preferred Vacation Trip Activity 1
961	0-250	Preferred Vacation Trip Activity 2
962	0-250	Preferred Vacation Trip Activity 3
963	1-17	Preferred Vacation Trip Accommodation
964	0-20	Reason 1 For Accommodation Choice
965	0-20	Reason 2 For Accommodation Choice
966	0-20	Reason 3 For Accommodation Choice
<u>DEMOGRAPHICS</u>		
967	1-2	Ownership of Private Recreation Home (or not)
968	0-5	Number of Private Recreation Homes Owned
969	-	Interview Number (blanked out)
970	26	Card Number
971	0-95	Location of Recreation Home 1
972	0-2	Recreation Home Rented (or not)
973	0-52	Number Weeks Recreation Home 1 Rented
974	0-95	Location of Recreation Home 2
975	0-2	Recreation Home 2 Rented (or not)
976	0-52	Number Weeks Recreation Home 2 Rented
977	0-9	Number of Automobiles
978	1-4	Marital Status of Respondent
979	1-2	Respondent Attending School Full Time (or not)
980	1-2	Respondent Will Attend School Next Term (or not)
981	1-7	Highest Education Completed by Respondent
982	1-2	Other Post Secondary Education of Respondent
983	1-6	Employment Status of Respondent
984	0-999	Employment Class of Respondent
985	0-2	Respondent Self-Employed (or not)
986	0-7	*Highest Grade Completed, Head of Household
987	0-2	*Other Post Secondary Education, Head of Household
988	0-6	*Employment Status, Head of Household
989	0-999	*Employment Class, Head of Household
990	0-2	*Head of Household Self-Employed (or not)
991	0-98	Hours Worked Per Week
992	0-5	Commuting Time Per Day (Hours)
993	0-59	Part Hours Commuting Time (in minutes)
994	0-2	Monday Off (Code "8" if no days off)
995	0-3	Tuesday Off
996	0-4	Wednesday Off
997	0-5	Thursday Off
998	0-6	Friday Off
999	0-7	Saturday Off
1000	0-1	Sunday Off
1001	0-2	2nd Paid Job or Not
1002	0-50	Hours for 2nd Paid Job

\* If respondent is head of household, corresponding codes are duplicated for the head of household variables.

Item Number	Range of Values	Variable Description
1003	0-52	Weeks Worked in Past 12 Months
1004	1-9	Vacation Taken Past 12 Months
1005	1-2	Tenure
1006	1-7	Dwelling Type
1007	0-56	Floors with Dwelling Units (if apartment)
1008	0-8	Residence Moves, Past 12 Months
1009	1-35	Respondent's Language In Household
1010	1-2	Other Languages (or not)
1011	0-35	Other Language 1
1012	0-35	Other Language 2
1013	0-11	Household Income
1014	0-11	Respondent's Income
1015	0-9	Estimated Household Income
1016	1-2	Did You Live Here 3 Months Ago

#### ADDITIONAL VARIABLES CREATED FOR MASTER TAPE

Item Number	Variable Description
Items 1017 to 1242 are created from variables in the questionnaire and are intended to facilitate analysis. The variables used to create these additional items are indicated in the column "Analysis Item".	
1017	Case weight
1018	Replicate number
1019	Weekend trip imputation factor
1020	Vacation trip imputation factor
1021	Age of respondent - raw years
1022	Sex of respondent
1023	Age-Sex category of respondent
1024	Relationship Code of respondent to head of household
1025	Age of head of household - raw years
1026	Sex of head of household
1027	Household composition
1028	Number of children in household - 1 to 4 years
1029	Number of children in household - 5 to 11 years
1030	Number of children in household - 12 to 16 years
1031	CRQLL income poverty level
1032	Work week type
1033	Community size
1034	Total activities, past 12 months, with no missing value allowed
1035	Total activities, past 12 months, with 1 missing value allowed (and treated as 0)
1036	Total occasions, past 3 months, with no missing values allowed
1037	Total occasions, past 3 months, with 1 missing value allowed (and treated as 0)
1038	Total occasions, home based participation past 3 months, with no missing value allowed

Item Number	Variable Description
1039	Total occasions, home based, past 3 months, with 1 missing value allowed (and treated as 0)
1040	Total number of minutes free time (yesterday)
1041	Total number of hours free time (yesterday)
1042	Total number of minutes of recreational time (yesterday)
1043	Number of weekend trips, past 3 months
1044	Number of vacation trips, past 3 months

Items 1045 to 1105 specify total days of participation past 3 months (calculated as midpoint between upper and lower range or exact value if only one value given and it is greater than one)

		<u>Analysis Item</u>
1045	Swimming or Wading	183, 184
1046	Recreational Boating	193, 194
1047	Fishing	205, 206
1048	Water-skiing	215, 216
1049	Picnicking	223, 224
1050	Hunting	232, 233
1051	Snowshoeing or Cross-country Skiing	242, 243
1052	Downhill Skiing	252, 253
1053	Recreational Driving	259, 260
1054	Recreational Cycling	267, 268
1055	Recreational Snowmobiling	276, 277
1056	Hiking	285, 286
1057	Recreational Walking	296, 297
1058	Organized Nature Appreciation	305, 306
1059	Personal Nature Appreciation	315, 316
1060	Visiting A Developed Historic Site/ Display	323, 324
1061	Visiting A Museum or Art Gallery	333, 334
1062	Attending A Sporting Event As A Spectator	342, 343
1063	Attending A Live Theatre or Concert Performance	351, 352
1064	Attending A Special Event	359, 360
1065	Visiting A Private Cottage, Chalet, Hobby Farm	367, 368
1066	Camping	383, 384
1067	Golfing	390, 391
1068	Tennis	393, 394
1069	Horseback Riding	396, 397
1070	Skin or Scuba Diving	399, 400
1071	Ice Skating	404, 405
1072	Tobogganing or Sledding	407, 408
1073	Curling	410, 411
1074	Ice Hockey	413, 414
1075	Baseball or Softball	416, 417
1076	Football (Canadian)	419, 420
1077	Soccer	422, 423
1078	Basketball	425, 426

Item Number	Variable Description
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Items 1079 to 1105 are created from variables 428, 429, 430, 432, 433, 434, 436, 437, 438, 442, 443, 444. The new items represent the number of days of participation, past 3 months, for specified "other" activities.

1079	Rugger
1080	Cricket
1081	Lacrosse
1082	Volleyball
1083	Water Polo
1084	Equestrian Sports
1085	Field Hockey
1086	Badminton
1087	Squash
1088	Bocce
1089	Handball
1090	Alley Bowling
1091	Lawn Bowling
1092	Track and Field
1093	Gymnastics
1094	Fencing
1095	Roller Skating
1096	Mountain Climbing
1097	Sports Car Racing
1098	Car Rallying
1099	Stock Car or Drag Racing
1100	Recreational Flying or Sky Diving
1101	Archery
1102	Trap or Skeet Shooting
1103	Boxing or Wrestling
1104	Judo or Karate
1105	Strength Sports

Items 1106 to 1136 indicate whether or not "other" activities were done in the past 12 months (Coded 0-1). They are created from variables 163, 164, 166, 167, 169, 170, 172, 173.

1106	Rugger
1107	Cricket
1108	Lacrosse
1109	Volleyball
1110	Water Polo
1111	Equestrian Sports
1112	Field Hockey
1113	Badminton
1114	Squash
1115	Bocce
1116	Handball
1117	Alley Bowling
1118	Lawn Bowling
1119	Track and Field
1120	Gymnastics

Item Number	Variable Description
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1121	Fencing
1122	Roller Skating
1123	Mountain Climbing
1124	Sports Car Racing
1125	Car Rallying
1126	Stock Car or Drag Racing
1127	Recreational Flying or Sky Diving
1128	Archery
1129	Trap or Skeet Shooting
1130	Boxing or Wrestling
1131	Judo or Karate
1132	Strength Sports
1133	Blank
1134	Blank
1135	Blank
1136	Blank

Items 1137 to 1163 indicate number of Non-home Based days of participation during the past 3 months for "other" activities. These items are created from variables 428, 431, 432, 435, 436, 439, 442, 445.

1137	Rugger
1138	Cricket
1139	Lacrosse
1140	Volleyball
1141	Water Polo
1142	Equestrian Sports
1143	Field Hockey
1144	Badminton
1145	Squash
1146	Bocce
1147	Handball
1148	Alley Bowling
1149	Lawn Bowling
1150	Track and Field
1151	Gymnastics
1152	Fencing
1153	Roller Skating
1154	Mountain Climbing
1155	Sports Car Racing
1156	Car Rallying
1157	Stock Car or Drag Racing
1158	Recreational Flying or Sky Diving
1159	Archery
1160	Trap or Skeet Shooting
1161	Boxing or Wrestling
1162	Judo or Karate
1163	Strength Sports

Item Number	Variable Description
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Items 1164 to 1177 are activity categories based on facility or resource requirements. Activities included in the individual categories are listed in Figure C-1. In computing estimates, 1 missing value was allowed (and treated as 0).

1164	Total Activities, Water oriented - past 12 months
1165	Total Activities, Outdoor land extensive - past 12 months
1166	Total Activities, Outdoor land intensive - past 12 months
1167	Total Activities, Recreation travel - past 12 months
1168	Total Activities, Cultural - past 12 months
1169	Total Activities, Outdoor sports - past 12 months
1170	Total Activities, Indoor sports - past 12 months
1171	Total Occasions, Water oriented - past 3 months
1172	Total Occasions, Outdoor land extensive - past 3 months
1173	Total Occasions, Outdoor land intensive - past 3 months
1174	Total Occasions, Recreation travel - past 3 months
1175	Total Occasions, Cultural - past 3 months
1176	Total Occasions, Outdoor sports - past 3 months
1177	Total Occasions, Indoor sports - past 3 months

Items 1178 to 1238 indicate total days of home based participation, past 3 months.

		<u>Analysis Item</u>
1178	Swimming or Wading	183, 184, 185
1179	Recreational Boating	193, 194, 195
1180	Fishing	205, 206, 207
1181	Water-skiing	215, 216, 217
1182	Picnicking	223, 224, 225
1183	Hunting	232, 233, 234
1184	Snowshoeing or Cross-country Skiing	242, 243, 244
1185	Downhill Skiing	252, 253, 254
1186	Recreational Driving	259, 260, 261
1187	Recreational Cycling	267, 268, 269
1188	Recreational Snowmobiling	276, 277, 278
1189	Hiking	285, 286, 287
1190	Recreational Walking	296, 297, 298
1191	Organized Nature Appreciation	305, 306, 307
1192	Personal Nature Appreciation	315, 316, 317
1193	Visiting a Developed Historic Site or Display	323, 324, 325
1194	Visiting a Museum or Art Gallery	333, 334, 335
1195	Attending a Sporting Event as a Spectator	342, 343, 344
1196	Attending a Live Theatre or Concert Performance	351, 352, 353
1197	Attending an Annually Scheduled Fair, Exhibition, Sportsman Show, Festival	359, 360, 361

FIGURE C-1

ACTIVITY CATEGORIES  
BASED ON  
FACILITY/NATURAL RESOURCE REQUIREMENTS

1. Water Oriented

- . SWIMMING OR WADING
- . MOTOR BOATING
- . CANOEING
- . OTHER BOATING-KAYAKING,  
ROW BOATING, ETC.
- . FISHING
- . WATER-SKIING
- . SKIN OR SCUBA DIVING

2. Outdoor Land Extensive

- . BIG GAME HUNTING
- . SMALL GAME HUNTING
- . SNOWSHOEING
- . CROSS-COUNTRY SKIING
- . RECREATIONAL TRAIL-BIKING
- . RECREATIONAL SNOWMOBILING
- . HIKING
- . AN OUTING TO VIEW OR  
PHOTOGRAPH BIRDS, ANIMALS,  
FISH, IN THEIR NATURAL  
SURROUNDINGS
- . AN OUTING TO VIEW, PHOTOGRAPH,  
OR COLLECT, PLANTS IN THEIR  
NATURAL SURROUNDINGS
- . AN OUTING TO VIEW, PHOTOGRAPH,  
OR COLLECT, ROCKS IN THEIR  
NATURAL SURROUNDINGS
- . HORSEBACK RIDING

3. Outdoor Land Intensive

- . PICNICKING
- . DOWNHILL SKIING
- . VISITING A ZOO OR  
BOTANICAL GARDEN
- . GOING ON A GUIDED NATURE  
TOUR
- . CAMPING
- . VISITING A PRIVATE COTTAGE,  
CHALET, HOBBY FARM, OR  
OTHER RECREATION HOME
- . GOLFING
- . TOBOGGANING OR SLEDDING

4. Recreational Travel

- . RECREATIONAL DRIVING  
(OUTSIDE AN URBAN AREA)
- . RECREATIONAL BICYCLING
- . RECREATIONAL WALKING
- . RECREATIONAL MOTORCYCLING

5. Cultural

- . VISITING A DEVELOPED  
HISTORIC SITE OR DISPLAY
- . VISITING A MUSEUM OR AN  
ART GALLERY (INCLUDING  
SCIENCE CENTRES)
- . ATTENDING A SPORTING  
EVENT AS A SPECTATOR
- . ATTENDING A LIVE THEATRE  
OR CONCERT PERFORMANCE
- . ATTENDING AN ANNUALLY  
SCHEDULED FAIR, EXHIBITION,  
FESTIVAL, OR OTHER SIMILAR  
EVENT

6. Outdoor Sports

- . FOOTBALL (CANADIAN)
- . SOCCER
- . BASEBALL OR SOFTBALL
- . TRACK OR FIELD
- . TENNIS

7. Indoor Sports

- . ICE SKATING
- . CURLING
- . ICE HOCKEY
- . VOLLEY BALL
- . BADMINTON
- . HANDBALL
- . ALLEY BOWLING
- . ROLLER SKATING
- . STRENGTH SPORTS  
(e.g. WEIGHT LIFTING)

Item Number	Variable Description	Analysis Item
1198	Blank	
1199	Blank	
1200	Golfing	390, 391, 392
1201	Tennis	393, 394, 395
1202	Horseback Riding	396, 397, 398
1203	Skin or Scuba Diving	399, 400, 401
1204	Ice Skating	404, 405, 406
1205	Tobogganing or Sledding	407, 408, 409
1206	Curling	410, 411, 412
1207	Ice Hockey	413, 414, 415
1208	Baseball or Softball	416, 417, 418
1209	Football (Canadian)	419, 420, 421
1210	Soccer	422, 423, 424
1211	Basketball	425, 426, 427

Items 1212 to 1238 are created from variables 428 - 440, 442 - 445, and indicate the number of home based days of participation in the "other" activities.

1212	Rugger	
1213	Cricket	
1214	Lacrosse	
1215	Volleyball	
1216	Water Polo	
1217	Equestrian Sports	
1218	Field Hockey	
1219	Badminton	
1220	Squash	
1221	Bocce	
1222	Handball	
1223	Alley Bowling	
1224	Lawn Bowling	
1225	Track and Field	
1226	Gymnastics	
1227	Fencing	
1228	Roller Skating	
1229	Mountain Climbing	
1230	Sports Car Racing	
1231	Car Rallying	
1232	Stock Car or Drag Racing	
1233	Recreational Flying or Sky Diving	
1234	Archery	
1235	Trap or Skeet Shooting	
1236	Boxing or Wrestling	
1237	Judo or Karate	
1238	Strength Sports	
1239	Work Week of Respondent - code as V1032 if V983 equals 1, otherwise code as missing (-1)	
1240	Number of Years Schooling of Respondent	
1241	Number of Years of Schooling of HOH	
1242	Total Number of free time activities per day (yesterday) - maximum of 12 (one missing value allowed and assumed to have a value of 0).	

## APPENDIX D

### CODING MANUAL FOR THE ONTARIO RECREATION SURVEY

This manual explains those numeric codes, used for coding responses to the ORS, which are not easily available from the ORS questionnaire (Ontario Recreation Survey - Survey Documents, 1973). The variable numbers correspond to those listed and described in Appendix C, The Variable List for the Ontario Recreation Survey.

All variables having a "don't know" response code or a missing value code, as defined in Appendix E - Verification and Editing of the ORS Data - were given a "1" code at the time of the final computer edit.

CODES USED IN ORS QUESTIONNAIRE

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Codes Used in ORS Questionnaire

1. RECREATION ACTIVITIES

1.1 Where used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
3		163, 166, 169, 172
10	1, 5, 6	386, 428, 432, 436, 442
13	17, 19	*
14	26	624, 625, 626, 630, 631, 632, 636, 637, 638
17	17, 19	*
18	26	851, 852, 853, 857, 858, 859
19	2, 5, 8	861, 862, 863, 864, 868, 869, 870, 871, 877, 878, 879, 880
20	2, 4, 6	891, 897, 903, 911, 917, 922, 927, 932, 936, 940
21	11	947, 948, 949
22	2, 6	952, 953, 954, 960, 961, 962

1.2 Codes Used

<u>CODE NO.</u>	<u>ACTIVITY</u>
01	Swimming or Wading
02	Motor Boating
03	Canoeing
04	Sailing
05	Other Boating - Kayak, Rowboat, etc.
06	Fishing
07	Water-skiing
08	Picnicking (excluding Barbecueing)
09	Big Game Hunting
10	Small Game Hunting
11	Waterfowl Hunting
12	Snowshoeing
13	Cross-country Skiing
14	Downhill Skiing
15	Recreational Driving
16	Recreational Bicycling
17	Recreational Motorcycling
18	Recreational Trail-biking
19	Recreational Snowmobiling
20	Hiking
21	Recreational Walking
22	Visiting a Zoo or Botanical Garden
23	Visiting Nature Displays or Exhibits
24	Going on a Guided Nature Tour
25	Viewing or Photographing Birds, Animals or Fish in their Natural Surroundings

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\* includes all activities done on most recent weekend/vacation trip

<u>CODE NO.</u>	<u>ACTIVITY (continued)</u>
26	Viewing, Photographing or Collecting Plants in their Natural Surroundings
27	Viewing, Photographing or Collecting Rocks in their Natural Surroundings
28	Visiting a Developed Historic Site or Display
29	Visiting a Museum or an Art Gallery (including Science Centres)
30	Attending a Sporting Event as a Spectator
31	Attending a Live Theatre or Concert Performance
32	Attending an Annually Scheduled Fair, Exhibition, Sportsman Show, Festival or other similar event (including Ontario Place)
33	Visiting a Private Cottage, Chalet, Hobby Farm or other recreation home
34	Camping
35	Golfing
36	Tennis
37	Horseback Riding
38	Skin or Scuba Diving
39	Ice Skating
40	Tobogganing or Sledding
41	Curling
42	Ice Hockey
43	Baseball or Softball
44	Football (Canadian)
45	Soccer
46	Basketball
47	Rugger
48	Cricket
49	Lacrosse
50	Volleyball
51	Water Polo
52	Equestrian Sports
53	Field Hockey
54	Badminton
55	Squash
56	Bocce
57	Handball
58	Alley Bowling
59	Lawn Bowling
60	Track and Field
61	Gymnastics
62	Fencing
63	Roller Skating
64	Mountain Climbing
65	Sports Car Racing
66	Car Rallying
67	Stock Car or Drag Racing
68	Recreation Flying or Skydiving
69	Archery
70	Trap or Skeet Shooting
71	Boxing or Wrestling
72	Judo or Karate
73	Strength Sports (e.g., Weight Lifting)
74	Hunting, unspecified
75	Skiing, unspecified

<u>CODE NO.</u>	<u>ACTIVITY (continued)</u>
76	Boating, unspecified
77	Nature Appreciation, unspecified
78	Cycling, unspecified
79	Visiting Friends and Relatives (coded as 181 for Leisure Time Activities, pp. 19 and 20)
80	Specialized Shopping
81	Business
82	Sightseeing
83	Touring and Travelling

## 2. ACCOMMODATION

### 2.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
12	15	463, 469, 477, 483, 489, 495 501, 509
14	24,25	623, 629, 635
16	15	658, 664, 672, 678, 684, 690 698, 704, 710, 716
18	24,25	850, 856
21	3,7	955, 963

### 2.2 Codes Used

<u>CODE NO.</u>	<u>ACCOMMODATION</u>
01	Hotel or Motel
02	Tourist Home
03	Youth Hostel
04	Resort Lodge
05	Outpost Establishments
06	Tourist Outfitter
07	Home (friend or relative)
08	Private Hobby Farm
09	Private Cottage
10	Private Chalet or Cabin
11	Tent
12	Tent Trailer
13	Pickup Camper
14	Travel Trailer
15	Mobile Home
16	Mixed Accommodation
17	Other

## 3. TRANSPORTATION

### 3.1 Where Used

<u>Page</u>	<u>Question</u>	<u>Variable Number</u>
12	14	462, 468, 476, 482, 488, 494, 500, 508
16	14	657, 663, 671, 677, 683, 689, 697, 703, 709, 715

3.2 Codes Used

<u>CODE NO.</u>	<u>TRANSPORTATION</u> (continued)
1	Automobile
2	Railway
3	Bus
4	Airplane
5	Boat
6	Walk or Hike
7	Other
8	Unknown

4. HOUSEHOLD RELATIONSHIP

4.1 Where Used

<u>Page</u>	<u>Question</u>	<u>Variable Number</u>
2	A.	13, 18, 23, 28, 33, 38, 43, 50 55, 60, 1024

4.2 Codes Used

<u>CODE NO.</u>	<u>HOUSEHOLD RELATIONSHIP</u>
1	Male Head
2	Female Head
3	Son
4	Daughter
5	Other Family Member
6	No Related

5. ATTENDING A SPORTING EVENT AS A PAYING SPECTATOR

5.1 Where Used

<u>Page</u>	<u>Question</u>	<u>Variable Number</u>
8	"Activity 18" Question 1(a)	336

5.2 Codes Used

<u>CODE NO.</u>	<u>ATTENDING A SPORTING EVENT AS A PAYING SPECTATOR</u>
	<u>Courts</u>
01	Basketball
02	Lacrosse
03	Racquet Sports (except Tennis)
04	Tennis
05	Volleyball
	<u>Ice</u>
10	Curling (bonspiel)
11	Hockey
12	Skating (figure, speed, follies)

<u>CODE NO.</u>	<u>ATTENDING A SPORTING EVENT AS A PAYING SPECTATOR (continued)</u>
	<u>Field</u>
20	Baseball, softball or fastball
21	Cricket
22	Football
23	Highland Games
24	Rugby
25	Rugger
26	Soccer
27	Track & Field (running, javelin, etc.)
28	Field Hockey
	<u>Track Racing</u>
30	Horse (rodeo, show)
31	Motorcycle
32	Sports Car
33	Stock Car
34	Drag Strip
35	Snowmobile
36	Go-cart
37	Dog Races
38	Roller Derby
39	Bicycle Race
	<u>Water</u>
40	Diving
41	Skiing
42	Sculling
43	Swimming
44	Water Polo
45	Sailing Regatta
46	Alligator Wrestling
47	Canoeing
48	Motor Boating
49	Boating, unspecified
	<u>Other (50-99)</u>
50	Bowling
51	Boxing
52	Golf
53	Judo or Karate
54	Downhill Skiing
55	Target Shooting
56	Wrestling
57	Tractor Pulling
58	Bullfight
59	Broomball
60	Gymnastics
61	Strength Sports (e.g., Weight Lifting)
62	Sky Diving
63	Billiards

6. LEISURE TIME ACTIVITIES

6.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
19	2, 5, 8	861, 862, 863, 864, 868, 869, 870 871, 877, 878, 879, 880
20	2, 4, 6	891, 897, 903, 911, 917, 922, 927 932, 936, 940
21	11	947, 948, 949, 950
21	2, 6	952, 953, 954, 960, 961, 962

6.2 Codes Used

<u>CODE NO.</u>	<u>LEISURE TIME ACTIVITIES</u>
	<u>Miscellaneous Activities</u>
84	Gambling
85	Surfing
86	Nature photography, unspecified
87	Snooker, pool or billiards
88	Floor hockey
89	Table tennis
91	Shuffleboard
92	Kite flying
93	Motorcycle racing
94	Go-Carting
95	Exploring
96	Ferry boat ride (e.g., Tour)
99	Catchall for Unclassified
	<u>Arts, Crafts &amp; Hobbies</u>
125	Drawing, sketching, painting, sculpture, pottery, model building, dried, plastic or paper flower creation and arranging, etc.
126	Singing, playing a musical instrument, acting, dancing (not lessons) etc.
127	Electronics, kit building, repairing electronic equipment (T.V.), ham radio operation and repair
128	Photography - family, etc., buildings, special events, photo processing (exclude photographing birds, animals, fish, plants or rocks)
129	Home movies or slide shows
130	Collecting (except plants/rocks) e.g., coins, stamps
131	Sewing, dressmaking, mending
132	Weaving, knitting, stitchery, macrame
133	Cooking, baking, preserving, family BBQ
134	Carpentry, hobby
135	Family tree/tracing ancestry
136	Animal Husbandry
139	Arts, crafts, hobbies, unspecified

<u>CODE NO.</u>	<u>LEISURE TIME ACTIVITIES (continued)</u>
	<u>Relaxing Indoors</u>
140	Sleeping, napping
141	Relaxing, just sitting, resting, lying down
142	Watching T.V.
143	Listening to radio
144	Listening to records/tapes
145	Reading, book, magazine, newspaper
146	Personal hygiene (unspecified)
147	Taking a bath, shower
148	Letter writing, diary
149	Telephoning
	<u>Exercising</u>
155	Keep-fit exercises - yoga, 5 bx, etc.
156	Jogging
157	Sauna, steambath, massage
	<u>Relaxing Outdoors</u>
160	Sunbathing
161	Relaxing outdoors in the yard
162	Walking dog or cat
163	Casual bird watching
164	Watching people
	<u>Education</u>
170	Lessons, music, correspondence, dance, acting, driving, etc.
171	Classes, lectures
172	Evening classes
173	Homework, studying
174	Going to the Library
179	Education, unspecified
	<u>Informal Social Activities</u>
180	Entertaining at home
181	Visiting friends or relatives
182	Watching or playing with children
183	Going to a pub, tavern, night club, discotheque
184	Dancing
185	Going to a show, movie or the cinema
186	Dining or eating out in restaurants
187	Going to the horse races, harness races, etc.
188	Window or pleasure shopping
189	Going to parties
190	Other entertainment - unspecified
191	Playing bridge
192	Playing other card games - e.g., euchre, gin rummy, etc.
193	Playing chess
194	Playing other games - e.g., monopoly, croquet, miniature golf, etc.
195	Meeting with people and learning about other cultures' lifestyles

CODE NO.      LEISURE TIME ACTIVITIES (continued)

	<u>Community and Service Activities</u>
200	Church - gospel meeting, worship, bible classes, confirmation classes, communicant classes, instruction
201	Church - committee, service, club
202	Civic service association - Kiwanis, Rotary, etc.
203	Youth Club, Drop-In Centre, etc.
204	Specific Interest Club (rod and gun)
205	Ethnic clubs
206	Voluntary agencies - charities, health service agencies - Big Brothers, Y's, hospital volunteers, etc.
207	Politics - related to elections
208	Politics - related to community action - i.e., rate payers, PTA, etc.
209	Other Social Clubs
210	Coaching sports teams - baseball, hockey, etc.
	<u>Home Improvement/Maintenance</u>
215	Interior decorating
216	Home and furniture repairs
217	Home appliance repair
218	Car, boat, motorcycle or snowmobile repair
219	Gardening
220	Cutting grass, trimming trees and bushes
221	Snow shovelling
222	Other odd jobs

7.      ANNUALLY SCHEDULED FAIRS, EXHIBITIONS, SPORTSMAN SHOWS, FESTIVALS, or SIMILAR SPECIAL EVENTS

7.1      Where Used

<u>Page</u>	<u>Question</u>	<u>Variable Number</u>
8	"Activity 20", question 1	354

7.2      Codes Used

CODE NO.      ANNUALLY SCHEDULED FAIRS, EXHIBITIONS, SPORTSMAN SHOWS, FESTIVALS or SIMILAR SPECIAL EVENTS

	<u>Exhibitions/Fairs</u>
01	Canadian National (Toronto)
02	Central Canada (Ottawa)
03	Central Ontario (Kitchener)
04	Western Ontario (London)
05	Royal Winter (Toronto)
06	Special Flower, Vegetable or Horticultural
07	School
08	Science
09	Other Local Fairs
10	Airplane (ground)
12	Ontario Place
13	Disneyland (California)

CODE NO.      ANNUALLY SCHEDULED ... SPECIAL EVENTS (continued)

Festivals

- 20 Folk (general)
- 21 Mariposa Folk Festival
- 22 Caribana
- 23 Ethnic (e.g., Annually Cultural Centre Bazaar)
- 24 Canada (Ottawa)
- 25 Maple Syrup (e.g., Elmira)
- 26 Music (rock, folk, singing, etc.)
- 27 Niagara Blossom Festival
- 28 Haliburton Highlands Festival of Colour
- 29 Metro International Caravan
- 30 Oktoberfest (e.g., Kitchener-Waterloo)
- 32 Water Festivals & Shows

Shows

- 40 Animal (dog, horse, cattle, etc.)
- 41 Antique
- 42 Boat
- 43 Car
- 44 Flower (except Botanical Gardens, Hamilton)
- 45 Home
- 46 Historical (or pageant)
- 47 Sportsman Show (Toronto)
- 48 Sportsman Show
- 49 Music (drum, voice, etc.)
- 50 Coins - numismatic
- 51 Rock - minerals, lapidary
- 52 Fashion
- 53 Air (flying)
- 54 Industrial
- 55 Pools & Patio Show (CNE Grounds)
- 56 Camper Show
- 57 Farm Show

Special Events

- 60 Armed Forces Display
- 61 Arts and Crafts
- 62 Carnivals & Mardi Gras
- 63 Centennials
- 64 Circus
- 65 Indian Events (Pow Wow, etc.)
- 66 Orange Parade
- 67 Parades
- 68 Sports Day
- 69 Rodeo
- 70 Calgary Stampede
- 71 Plowing Match
- 72 Santa Claus Parade
- 73 Canada Day (July 1)
- 74 Highland Games (e.g., Fergus)

8. REASONS FOR NON-PARTICIPATION

8.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
20	7	892, 893, 894, 898, 899, 900, 904, 905, 906, 912, 913, 914, 918, 919, 920, 923, 924, 925, 928, 929, 930, 933, 934, 935, 937, 938, 939, 943, 944, 945

8.2 Codes Used

<u>CODE NO.</u>	<u>REASONS FOR NON-PARTICIPATION</u>
01	There is no opportunity to do it near my home.
02	It costs too much to participate (including equipment costs).
03	The facilities or area to do it near my home are poor quality, inadequate, not challenging.
04	The facilities near my home are too crowded.
05	I don't know how to do it, I lack the skill.
06	I am physically unable to participate.
07	Not enough time - because of work (school).
08	Not enough time because of responsibilities at home.
09	Too dangerous.
10	Bad weather.
11	No one to do it with, no organized programme.
12	No means of transportation.
13	Facilities unknown.
14	Babysitter(s) unavailable.
15	Other priorities.
16	Ecological reasons (due to pollution, over-fishing, or abuse of facilities).
17	Temporarily physically unable to participate (pregnancy/broken limbs).
-1	Don't know.

9. REASONS FOR CHOOSING AN ACCOMMODATION TYPE

9.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
21	4,8	956, 957, 958, 964, 965, 966

9.2 Codes Used

<u>CODE NO.</u>	<u>REASONS FOR CHOOSING AN ACCOMMODATION TYPE</u>
01	Accessibility - convenient, available, handy
02	Cost - cheaper, economical, reasonable, less expensive
03	Comfort - comfortable, relaxing
04	Privacy - quiet, not crowded, intimate

9.2 Codes Used

<u>CODE NO.</u>	<u>REASONS FOR CHOOSING AN ACCOMMODATION TYPE (continued)</u>
05	Environment - fresh air, natural, like outdoors, like to rough it, good scenery
06	Pleasure - fun, enjoyment, excitement
07	Reliability - good service, good food, clean, safe, no worry, dependable
08	Visiting friends, relatives - reunions, invited (expected)
09	Luxury - a treat, no work, air-conditioned, don't like roughing it
10	Variety - a change, variety, something different, unique experience
11	Social reasons - friendly, can meet people, like company, good companionship
12	Owner - my land, my lodge, etc.
13	Freedom - open space, independence
14	Mobility - allows easy travelling
15	No choice - necessity, only thing available
16	Activity - so I can do the activity
17	No particular reason - like it, my preference
18	Babysitter available
19	Planned tour available
20	Do not know about other kinds of accommodation available there
-1	Don't know

10. TYPES OF FISH

10.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
4	"Fishing", question 1(d)	199

10.2 Codes Used

<u>CODE NO.</u>	<u>TYPES OF FISH</u>
01	Rainbow Trout
02	Brown Trout
03	Brook Trout
04	Lake Trout
05	Trout (unspecified)
06	Splake
07	Cohoe Salmon
08	Salmon (unspecified)
09	Rock Bass
10	Smallmouth Bass
11	Largemouth Bass
12	Bass (unspecified)
13	Sunfish
14	Pumkinseed
15	White Crappie
16	Black Crappie

CODE NO.      TYPES OF FISH (continued)

17	Bluegill
18	Yellow Perch
19	Walleye
20	Northern Pike
21	Maskinonge (Muskelonge) (also see Code 38)
22	Pickere1
23	Whitefish
24	Catfish
25	Smelt
26	Minnow (unspecified)
27	Sucker
28	Grouper
29	Barbut
30	Mackere1
31	Carp
32	Panfish
33	Bullhead
34	Eels
35	Lung(e)
36	Chub
37	Red Snapper
38	Muskies (also see code 21)
39	Jackfish
40	Black Bore
41	Cod
42	Tuna
43	Sailfish
98	Respondent does not know

11.      JURISDICTION

11.1      Where Used

<u>Page</u>	<u>Question</u>	<u>Variable Number</u>
4, 5, 6, 7, 8	6	182, 192, 204, 212, 222, 231, 241, 249, 275, 284, 295, 304, 314
10	"Other Activity", question 4	389

11.2      Codes Used

<u>CODE NO.</u>	<u>JURISDICTION</u>
1	Provincial Parks (including St. Clair, Niagara and St. Lawrence Commission Parks), Recreation Areas, Wildlife Management Areas and Public Fishing Areas
2	Regional Conservation Authority Areas and Parks
3	Municipal (City, Town, Village) Recreation Areas and Facilities (Parks, Open Space, Arenas, Public Golf Courses, Swimming Pools, etc.)

<u>CODE NO.</u>	<u>JURISDICTION (continued)</u>
4	Private (Commercial) Land and Facilities Open to The Public
5	Private Land and Facilities Not Open to Public Use
6	Crown Land
7	Other (Please Specify)
8	Outside of Ontario but in Canada
9	Outside of Canada
-1	Don't Know

12. MONTH

12.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
1		10
11	4	449
15	4	644

12.2 Codes Used

<u>CODE NO.</u>	<u>MONTH</u>
01	January
02	February
03	March
04	April
05	May
06	June
07	July
08	August
09	September
10	October
11	November
12	December

13. DAY OF WEEK

13.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
1		8
4, 5, 6, 7, 8	2	178, 188, 200, 208, 218, 227, 237, 245, 255, 263, 271, 280, 291, 300, 310, 319, 329, 338, 347, 355,
11	4	451
15	4	646

13.2 Codes Used

<u>CODE NO.</u>	<u>DAY OF WEEK</u>
1	Sunday

<u>CODE NO.</u>	<u>DAY OF WEEK (continued)</u>
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday
8	Weekend - unspecified
9	Week Day - unspecified

14. LANGUAGE SPOKEN

14.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
24	30, 32	1009, 1011, 1012

14.2 Codes Used

<u>CODE NO.</u>	<u>LANGUAGE SPOKEN</u>
01	English
02	French
03	Arabic
04	Chinese
05	Czech
06	Danish
07	Eskimo dialects
08	Estonian
09	Finnish
10	Flemish
11	Gaelic
12	German
13	Greek
14	Icelandic
15	Native Indian dialects
16	Indo-Pakistani
17	Italian
18	Japanese
19	Lettish
20	Lithuanian
21	Magyar (Hungarian)
22	Netherlands
23	Norwegian
24	Polish
25	Portuguese
26	Romanian
27	Russian
28	Croatian-Serbian
29	Slovak
30	Spanish
31	Swedish
32	Ukranian
33	Welsh
34	Yiddish
35	Other

15. JOB CLASSIFICATION

15.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
22	11, 12	984
23	16, 17	989

15.2 Codes Used

Codes used for these classifications are from the following manual from Statistics Canada:  
Occupational Classification Manual Census of Canada, 1971, Vol. 1;  
 Ottawa, Canada: Information Canada, 1971

Note: Only the first three digits are used. Value range 1 to 999.

16. AGE-SEX CATEGORY OF RESPONDENT

16.1 Where Used

<u>Page</u>	<u>Variable Number</u>
Created Variable	1023

16.2 Codes Used

<u>CODE NO.</u>	<u>AGE-SEX CATEGORY</u>
1	Male; 12 to 19 years
2	Male; 20 to 34 years
3	Male; 35 to 49 years
4	Male; 50 to 64 years
5	Male; 65 and older
6	Female; 12 to 19 years
7	Female; 20 to 34 years
8	Female; 35 to 49 years
9	Female; 50 to 64 years
10	Female; 65 and older

17. HOUSEHOLD COMPOSITION

17.1 Where Used

<u>Page</u>	<u>Variable Number</u>
Created Variable	1027

17.2 Codes Used

A family household is defined as a household having present only individuals who are defined as Male Head of Household, Female Head of Household, Son or Daughter.

<u>CODE NO.</u>	<u>HOUSEHOLD COMPOSITION (continued)</u>
1	A 'couple'; non-family household with only a male head and a female head present
2	Non-family household with no son or daughter less than 18 years of age present and not a 'couple'
3	Non-family household with at least one son or daughter less than 18 years of age present
4	Family Household; both male head and female head present; respondent is male head or female head
5	Family Household; only one of male head or female head present; respondent is male head or female head
6	Family Household; respondent is son or daughter
7	Single person; respondent is only person in household
-1	Relationship to head of household of any member is unknown

18. CROLL INCOME POVERTY LEVEL

18.1 Where Used

<u>Page</u>	<u>Variable Number</u>
Created Variable	1031

18.2 Codes Used

Respondent defined as being in poverty if his household income (variable 1013) is defined by the following:

<u>Household size</u>	<u>Income level</u>
1, 2	Less than \$ 3,000
3, 4, 5	Less than \$ 6,000
6, 7, 8	Less than \$10,000
9, 10	Less than \$12,000

<u>CODE NO.</u>	<u>POVERTY</u>
1	in poverty
2	not in poverty
3	unable to determine if in poverty or not

19. WORK WEEK

19.1 Where Used

<u>Page</u>	<u>Variable Number</u>
Created Variable	1032, 1239

19.2 Codes Used

Created from variables 994 to 1000.

<u>CODE NO.</u>	<u>WORK WEEK (continued)</u>
1	Work any 1 to 3 days
2	Work 4 days; at most only 1 weekend day off
3	Work 4 days; Saturday, Sunday plus 1 other day off
4	Work 5 days; any 2 days off except Sunday
5	Work 5 days; Sunday plus one other day off excluding Saturday
6	Work 5 days; Saturday and Sunday off
7	Work 6 days; one day off other than Sunday
8	Work 6 days; only Sunday off
9	Work 7 days;
-1	One of values (variables 994 to 1000) missing or respondent or head of household not employed full time

20. COMMUNITY SIZE

20.1 Where Used

<u>Page</u>	<u>Variable Number</u>
Created Variable	1033

20.2 Codes Used

<u>CODE NO.</u>	<u>COMMUNITY SIZE</u>
1	500,000 and over; Metropolitan Toronto
2	100,000 to 499,999; St. Catharines, Ottawa, Windsor, London, Mississauga, Kitchener-Waterloo, Hamilton, Thunder Bay
3	50,000 to 99,999; Niagara Falls, North Bay, Brantford, Kingston, Burlington, Oakville, Sarnia, Oshawa, Peterborough, Cambridge (Galt, Hespler and Preston), Guelph, Sault Ste. Marie, Sudbury
4	25,000 to 49,999; Markham, Richmond Hill, St. Thomas, Belleville, Chatham, Woodstock, Barrie, Cornwall, Timmins, Port Colborne, Welland
5	10,000 to 24,999; Fort Erie, Grimsby, Thorold, Lincoln, Niagara-on-the-Lake, Pelham, Vanier, Newmarket, Vaughan, Aurora, Whitchurch-Stouffville, Leamington, Owen Sound, Georgetown, Trenton, Wallaceburg, Brockville, Simcoe, Cobourg, Whitby, Ajax, Stratford, Pembroke, Orillia, Midland, Lindsay, Dundas, Kapuskasing, Kenora, Kirkland Lake
6	5,000 to 9,999; Huntsville, Bracebridge, Gravenhurst, Paris, Orangeville, Tecumseh, Amherstburg, Hanover, Dunnville, Milton, Acton, Goderich, Smiths Falls, Perth, Carleton Place, Gananoque, Prescott, Strathroy, Bowmanville, Port Hope, Ingersoll, Tillsonburg, Port Credit, Streetsville, Hawkesbury, Renfrew, Arnprior, Deep River, Collingwood, Penetanguishene, Sturgeon Falls, Fergus, Stoney Creek, Iroquois Falls, Dryden, Parry Sound, Fort Frances, Copper Cliff,

CODE NO.                      COMMUNITY SIZE (continued)

7                      New Liskeard, Haileybury  
 -1                    All other known locations  
                       Unknown locations

21.                      NUMBER OF YEARS OF SCHOOLING

21.1                    Where Used

<u>Page</u>	<u>Variable Number</u>
Created	1240, 1241
Variable	

21.2                    Codes Used

<u>CODE NO.</u>	<u>NUMBER OF YEARS OF SCHOOLING</u>	<u>Value Var. 981 or Var. 986</u>	<u>Value Var. 982 or Var. 987</u>
5	Less than Grade 5	1	-
8	Grades 5 to 8	2	-
10	Grades 9 to 11 (no other)	3	2
11	Grades 9 to 11 (some other)	3	1
12.5	Grades 12 to 13 (no other)	4	2
13.5	Grades 12 to 13 (some other)	4	1
15	Some University	5	-
16.5	Bachelors	6	-
19.5	Masters and above	7	-

22.                      LOCATION CODES

Throughout the interviews, respondents were asked to give locational data in terms of the nearest town, village, or city. Locations were coded according to a 5-digit coding system. This coding system provides a great deal of flexibility in developing zones for the analysis of traffic flows. However, data at this level of detail are often not statistically reliable and, in terms of computer time, are very expensive to analyze. Consequently, the locational data has been recorded.

22.1                    Locations of Respondent's Permanent Home, Vacation Home(s),  
 Activity Participation, Trip Origins and Destinations

22.1.1                  Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
1	-	3
4	5	181, 191, 203
5	5	211, 221, 230, 240, 248
6	5	258, 266, 274, 283
7	5	294, 303, 313
8	5	322, 332, 341, 350, 358
9	1	364
10	3	388
11	5	452

<u>Page</u>	<u>Question Number</u>	<u>Variable Number (continued)</u>
12	11, 12, 13	460, 466, 472, 480, 486 492, 498, 506, 461, 467 475, 481, 487, 493, 499 507
14	23	622, 628, 634
15	5	647
16	11, 12, 13	655, 661, 667, 675, 681 687, 693, 701, 707, 713 656, 662, 670, 676, 682 688, 696, 702, 708, 714
18	23	849, 855
21	1, 5	951, 959
22	2	971, 974

22.1.2 Codes Used

<u>CODE NO.</u>	<u>LOCATION</u>
1	Essex County
2	Kent County
3	Lambton County
4	Huron County
5	Middlesex County
6	Elgin County
7	Regional Municipality of Haldimand-Norfolk
8	Oxford County
9	Perth County
10	Bruce County
11	Grey County
12	Wellington County
13	Regional Municipality of Waterloo
14	Brant County
15	Regional Municipality of Niagara
16	Regional Municipality of Hamilton-Wentworth
17	Regional Municipality of Halton
18	Regional Municipality of Peel
19	Dufferin County
20	Simcoe County
21	Regional Municipality of York
22	Metropolitan Toronto
23	Regional Municipality of Durham
24	Victoria County
25	Peterborough County
26	Northumberland County
27	Regional Municipality of Muskoka
28	Haliburton County
29	Prince Edward County
30	Hastings County
31	Renfrew County
32	Lennox and Addington County
33	Frontenac County
34	Leeds County
35	Lanark County
36	Regional Municipality of Ottawa-Carleton

<u>CODE NO.</u>	<u>LOCATION</u>
37	Grenville County
38	Dundas County
39	Stormont County
40	Russell County
41	Prescott County
42	Glengarry County
43	Nipissing District
44	Parry Sound District
45	Sudbury District
46	Timiskaming District
47	Cochrane District
48	Manitoulin District
49	Algoma District
50	Thunder Bay District
51	Rainy River District
52	Kenora District
53	Vancouver
54	British Columbia (other than Vancouver)
55	Yukon, North West Territories, Northern Canada - unspecified
56	Calgary
57	Alberta (other than Calgary)
58	Saskatchewan
59	Manitoba
60	Western Canada - unspecified
61	Ontario
62	Northern Ontario - unspecified
63	Montreal
64	Quebec City
65	Province of Quebec (other than Montreal or Quebec City)
66	New Brunswick
67	Nova Scotia
68	Prince Edward Island
69	Maritimes - unspecified
70	Canada - unspecified
71	Hawaii
72	New York
73	Florida
74	Michigan
75	California
76	U.S.A. (other than Hawaii, New York, Florida, Michigan and California)
77	Mexico
78	Bahamas
79	Barbados
80	Carribean (other than Bahamas and Barbados) including unspecified Carribean
81	South America and Central America (other than Mexico)
82	British Isles
83	France
84	Germany
85	Greece
86	Italy

<u>CODE NO.</u>	<u>LOCATION (continued)</u>
87	Netherlands
88	Spain
89	Switzerland
90	Europe (other than Codes 82 to 89)
91	Africa
92	Middle East
93	Asia
94	Australia
95	New Zealand, Pacific Ocean countries

23. BORDER CROSSINGS/AIRPORTS OF DEPARTURE

23.1 Where Used

<u>Page</u>	<u>Question Number</u>	<u>Variable Number</u>
11	6	453
15	6	648

23.2 Codes Used

<u>CODE NO.</u>	<u>LOCATION OF PROVINCIAL BORDER CROSSINGS</u>	<u>TYPE</u>	<u>HWY</u>	<u>REMARKS</u>
01	Clarence-Thurso, Que.	Ferry	17 Alt.	
02	Cumberland-Masson, Que.	Ferry	Cty. Rd.	
03	Fitzroy Harbour - Quyon, Que.	Ferry	Cty. Rd.	See also Woodbridge
04	Haley Sta. (East of Portage du Fort, Que.)	Bridge	Cty. Rd.	Portage du Fort Hwy.6
05	Hawkesbury-Grenville, Que.	Bridge	Cty. St.	Perley Bridge
06	Ingolf to Manitoba	Road	17	Trans-Canada West
07	Judge-Quebec Province	Road	65	
08	Kearns-Virginiatown, Que.	Road	66	Kenora
*09	Lancaster (E.of) - Que. Province	Road	2	#401 and #2
10	Lefaivre-Montbello, Que.	Ferry		
11	Lefaivre-Fassett, Que.	Ferry		
12	Matheson-Que. Province	Road	101	
13	North Lancaster - Dalhousie, Que.	Road	Cty. Rd.	
14	Champlain (Ottawa-Hull)	Bridge	Cty. St.	
15	Chaudiere (Ottawa-Hull)	Bridge	Cty. St.	Central
16	Alexandra (Ottawa-Hull)	Bridge	Cty. St.	Interprovin- cial
17	MacDonald-Cartier (Ottawa-Hull)	Bridge	Cty. St.	
18	Pembroke (S. of ) - Alumette Island	Bridge	62	Pembroke Also to Morrison Island

\*Ontario/Quebec Border Crossing on Highway 401

<u>CODE NO.</u>	<u>LOCATION OF PROVINCIAL BORDER CROSSINGS</u>	<u>TYPE</u>	<u>HWY</u>	<u>REMARKS (cont'd)</u>
19	Pointe Fortune Carrillion	Ferry	Cty. Rd.	
20	Pointe Fortune - (S. of) Que. Province	Road	17	
21	Rolphon-DesJoachims	Bridge	635	
22	St. Eugene-Rigaud, Que.	Road	Cty. Rd.	
23	Sand Point-Norway Bay	Ferry	Cty. Rd.	
24	Thorne-Temiskaming, Que.	Bridge	63	
25	Woodridge to Quyon, Que.	Ferry	Cty. Rd.	See also Fitzroy Harbour

<u>CODE NO.</u>	<u>LOCATION OF INTERNATIONAL BORDER CROSSINGS</u>	<u>TYPE</u>	<u>HWY.</u>	<u>REMARKS</u>
26	Cornwall-Rooseveltown, N. Y.	Bridge	2	Seaway International Bridge
27	Courtwright-St. Clair, Mich.	Ferry	40	
28	Fort Erie-Buffalo N. Y.	Bridge	8	Peace Bridge
29	Fort Frances-Inter- national Falls, Minn.	Bridge	71	
30	Ivy Lea-Collins Landing, N.Y.	Bridge		Thousand Islands- Seaway Prescott
31	Johnston-Ogdensburg, N.Y.	Bridge	16	
32	Leamington-Sandusky	Ferry	18	
33	Kingsville-Sandusky	Ferry	18	
34	Niagara Falls-N. Falls, N.Y.	Bridge	QEW	Rainbow (or) Honeymoon
35	Niagara Falls-N. Falls, N. Y.	Bridge	8	Whirlpool Rapids Bridge
36	Pigeon River-Minnesota	Bridge	61	
37	Pt. Lambton-Roberts Landing, Mich.	Ferry	40	
38	Queenston-Lewiston, N.Y.	Bridge	405	Queenston Bridge
39	Rainy River-Baudette, Minn.	Bridge	11	Ferry prior to July/60
40	Sarnia-Port Huron	Bridge	402	Bluewater Bridge
41	Sault-Ste. Marie - SSM, Mich.	Bridge	17	International Bridge
42	Sombra-Marine City, Mich.	Ferry	40	Bluewater Ferry
43	Walpole Is. - Algonac, Mich.	Ferry	40	

<u>CODE NO.</u>	<u>LOCATION OF INTERNATIONAL BORDER CROSSINGS</u>	<u>TYPE</u>	<u>HWY</u>	<u>REMARKS(cont'd)</u>
44	Windsor-Detroit Mich.	Bridge	3	Ambassador Bridge
45	Windsor-Detroit Mich.	Tunnel	3B	
46	Wolfe Is.-Cape Vincent N.Y.	Ferry	95	

<u>CODE NO.</u>	<u>LOCATION OF AIRPORTS OF DEPARTURE</u>
50	Dryden
51	Earlton
52	Hamilton
53	Kapuskasing
54	Kenora
55	Kirkland Lake
56	London
57	North Bay
58	Ottawa
59	Sault Ste. Marie
60	Sudbury
61	Timmins
62	Thunder Bay
63	Toronto
64	Windsor

## VERIFICATION AND EDITING OF THE ORS DATA

1. VERIFICATION OF INTERVIEWS

The contract for the ORS specified that all verification of interviews carried out by the market research firm be done by their head office staff. For each month of the survey the firm was required to verify (a) at least one interview per interviewer and (b) at least 10% of all interviews.

The verification procedure included asking a number of questions necessary to determine (a) whether or not the procedure for the selected household and the respondent was properly followed, (b) the age of the selected respondent and (c) whether or not the respondent had completed a weekend and/or vacation trip in the three months prior to being interviewed.

TORPS staff also verified a number of completed interviews from time to time during the survey period of May 1973 to April 1974.

2. EDITING OF QUESTIONNAIRES

Data from the ORS underwent several stages of editing. Editors from the market research firm manually checked whether or not (a) all codes were within valid ranges, (b) all questions were answered that (according to questionnaire instructions) should have been answered and (c) all responses to related questions within and among sections were logically consistent.

Upon receipt of the coded questionnaires, TORPS staff undertook another manual edit to ensure that (a) the age and sex of each household member had been properly coded, (b) the correct respondent had been selected and (c) the more complex sections had been properly coded. Again, responses to related questions found in various sections of the questionnaire were checked for consistency. At this stage a number of questionnaires were rejected while others were sent back to the market research firm for verification and/or elaboration.

Next the data underwent a comprehensive computerized edit. A simple description of the type of checks that were made and the response to each error code is documented in Section 4 of this Appendix. The editing and updating procedure continued until no more than 1% error existed for any variable. Since the editing procedure was applied separately to data from each month, the overall error rate is less than 1%.

3. EDITING OF KEYPUNCHING

All keypunching was verified. Samples of keypunching were selected periodically and manually checked for accuracy. Accuracy for all samples checked was well above 99%.

4. ERRORS CODES, MESSAGES AND PROPER HANDLING

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
1	Variable number 1 out of range	When a column has not been coded, or the value is out of range, insert the correct value. If no information is stated, insert a missing value code in the columns provided for the answer.
2	2	
3	3	
4	4	
.	.	
.	.	
1015	1015	
1016	1016	
1017	Interview number/card number in wrong order	Insert, delete or update incorrect card/interview numbers.
1018	Age values of household members out of sequence	<p>1) If ages are out of order, change age values to correct sequence and update corresponding data in cards 1 and 2.</p> <p>2) If caused by keypunching or coding error, e.g. age 10 may have been coded as 01, insert the correct value and check the selection number and, if necessary, correct respondent selection.</p>
1019	Selection number improperly derived	<p>1) An incorrect selection number may be due to error code 1018 (age values out of sequence). Correction of the age values will correct the selection number.</p> <p>2) A selection number may have been improperly derived by an inclusion of persons away at college. Subtract such persons from eligible family members and insert new value for the selection basis in col. 28 and 29 of card 2.</p> <p>3) By an inclusion of persons under 12 in the selection basis. Subtract such persons and insert new value for the selection basis in col. 28 and 29 of card 2.</p>

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
1019 (cont'd)		4) The total number of people in the household may have added up incorrectly. Insert correct value for total members in col. 26 and 27 of card 2.  5) The respondent selection number may have been coded incorrectly (e.g., a 4 was mistaken for a 7). Insert the correct selection number in col. 30 and 31 of card 2.
1020	Selection number not checked due to error code 1018	Update error code 1018 (see above) and check for correct respondent selection.
1021	Respondent improperly selected	May occur due to code 1018 and/or 1019, in which case no corrective action is required. If a wrong respondent was selected, insert a value of 98 in col. 29 and 30 of card 1.
1022	Respondent selection not checked due to error codes 1018, 1019 or/and 1020	Check for a correct respondent selection. Even when error codes 1018 and 1019 have been corrected, a wrong respondent selection is still possible, in which case, insert a value of 98 in col. 29 and 30 of card 1.
1050	In a single (last) trip, total number of nights camped is less than the number of nights of wilderness camping	Check for possible coding or keypunching errors.
1051	During the past 3 months, the total number of nights camped is less than the number of nights camped outside of Ontario	Check for possible coding or keypunching errors. Check also the trip segments for 1) a total of camping nights in the past 3 months and 2) the number of those nights which were camped outside of Ontario: update the value for total number of nights camped in col. 39-42 of card 9 and the value for number of nights camped outside Ontario in col. 43-44 of card 9 if possible; missing value codes in the corresponding fields otherwise.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
1052	Number of segments improperly coded	Check and code the actual number of segments 1) in col. 40 of card 11 for a weekend trip, and 2) in col. 34 and 35 of card 16 for a vacation trip.
11XX	Detailed section for the XXth group of activity(ies) should both be present	<p>If an activity in an XXth group of activities is stated in either the Free Time activities section or in the activity record of the trip section, code the activity as having been done in the past 3 months in cards 2 and 3. If the activity is not stated in one of the above sections, then the activity must have been one or more of the following:</p> <p>1) Coded in the wrong detailed section (e.g. data for historic sites coded in the detailed section for museum/art galleries). Therefore insert a value of 1 in the column of card 2 or 3 which corresponds to that activity as done in the past 3 months. Delete the values coded in the wrong detailed section and insert the same values in the correct detailed section.</p> <p>2) Coded in the wrong column, cards 2 or 3. Insert a value of 1 in the correct column corresponding to the activity as done in the 12 and 3 month periods. Delete the values of 1 in the incorrect columns.</p> <p>3) The activity should not have been coded at all in the detailed section because it was actually only done in the past 12 months. Delete all values in the detailed section.</p> <p>(A clue to whether or not an activity has been done in the past 3 months is its position in the tables of the activity preference section. If it is in both the detailed section and in Table I, then it likely should have been coded in card 2 or 3 as having been done in the past 3 months.</p>

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
11XX (cont'd)		If it is in the detailed section, but in Table II or III of the preference section, then it is likely that card 2 or 3 is correct in the coding of only the past 12 month period.)
12XX	Detailed section for the XXth group of activity(ies) missing	<p>If an activity in an XXth group of activities is stated in either the Free Time Activities Section or the activity record of the trip section, insert what values are available in the detailed section for that activity.</p> <p>If the activity is not stated in one of the above sections, then the activity may have been one or more of the following:</p> <ol style="list-style-type: none"><li>1) Coded in the wrong columns of card 2 or 3. See 11XX (2) for corrective procedure.</li><li>2) Simply forgotten when the interviewer got to the detailed section. Code a missing value for all missing information in the detailed section.</li><li>3) If no evidence is provided for the activity as having been done in the past 3 months, delete the value of 1 in the column of card 2 or 3 for that activity having been done in the past 3 months.</li></ol>
13XX	Answers to questions 3 and 8/7 of the XXth group of activity(ies) are inconsistent	1) If an activity in a XXth group of activities can be totally accounted for in the activity records of the trip section, change the values for #3 and #4 to be consistent with #7 and #8 in the detailed section.
14XX	Answers to questions 6/7 and 7/8 of the XXth group of activity(ies) are inconsistent	<ol style="list-style-type: none"><li>2) If the activity is not stated in the trip section, but #3 and #4 of the detailed section, state that it should, in fact, be in the trip section, or if the activity cannot be totally accounted for in the trip section, then insert a value of 3 in the column of card 2 or 3 which corresponds to that activity as having been done in the past 12 months.</li></ol>

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
14XX (cont'd)		3) If the activity is not in the trip section, and #3 of the detailed section states that the activity was not done on a trip, then insert a value of 0 in the detailed section for #8.
15XX	Type of activity in the XXth group of activity(ies) in the detailed section does not agree with that shown earlier on page 3 of questionnaire	<p>1) Check for, and if applicable, correct coding or keypunching errors.</p> <p>2) If the type of activity in the XXth group of activities in the detailed section appears elsewhere in the questionnaire as having been done in the past 3 months, take that information and update card 2 or 3 correspondingly.</p> <p>3) If the type of activity in the XXth group of activities in the detailed section does not appear elsewhere as having been done in the past 3 months, take the information in the detailed section and update card 2 or 3 correspondingly.</p> <p>4) If the type of activity in the XXth group of activities in card 2 or 3 and the type of activity in the detailed section both appear elsewhere in the questionnaire as having been done in the past 3 months, insert a value of 1 in card 2 or 3 for the column corresponding with both types of activities.</p>
16XX	Details for XXth other activity should not be present	Same procedure as for 11XX, with the exception that the steps to follow apply here to XXth other activities section.
17XX	Details for XXth other activity missing	Same procedure as for 12XX, with the exception that the steps to follow apply here to XXth other activities section.
18XX	Number of days of part of trip is greater than that of the total trip in XXth other activity	Relate the number of days in the other activities section to those indicated in trip section. Update the corresponding values if possible. Otherwise, insert a value of 3 in the columns of card 3 which correspond to the activity as done in the past 12 months.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
19XX	Code for XXth write-in activity missing	<p>1) Check for and if possible, correct coding or keypunching errors.</p> <p>2) If XXth write-in activity does not appear in the write-in part of the other activity section, delete values for the write-in activity in the column of card 3 corresponding to that activity as having been done in the past 3 months. Insert the code for the write-in activity in card 3.</p>
2XXX	Inconsistent values for variables XXX and (XXX+1)	<p>1) If the XXth activity appears in the detailed section, insert a value of 1 in the column of card 2 or 3 which corresponds to that activity as done in the past 12 months.</p> <p>2) If the XXth activity does not appear in the detailed section, delete a value of 1 in the column of card 2 or 3 which corresponds to that activity as done in the past 3 months. Insert a value of 1 in the column of card 2 or 3 which corresponds to that activity as done only in the past 12 months.</p>
22XX	Details for XXth write-in activity missing	Same procedure as for 11XX and 16XX, with the exception that the steps to be followed apply here to XXth write-in activities.
23XX	<p>Number of days of part of trip more than that of the total trip in XXth write-in activity. The last 2 digits will designate the kind of trip, i.e.</p> <p>01 : weekend trip</p> <p>02 : vacation trip</p>	Same procedure as for 18XX, with the exception that the steps to be followed apply here to XXth write-in activities.
24KK	Details of KK should not be present	<p>1) If the trip has occurred in the past 3 months, insert a value of 1 in col. 16 and/or 19 of card 11 for a weekend trip. Insert a value of 1 in col. 8 and/or 11 of card 16 for a vacation trip.</p> <p>2) If the trip has not occurred in the past 3 months, delete all values in the trip section.</p>

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
25KK	KK has been taken in the past 3 months but not the past 12 months	<p>1) If no trip is recorded in the trip section, and a trip has not been taken in the past 12 months, insert a value of 0 in col. 19 of card 11 for a weekend trip. Insert a value of 0 in col. 11 of card 16 for a vacation trip.</p> <p>2) If a trip is recorded in the trip section and has occurred in the past 3 months, insert a value of 1 in col. 16 of card 11 for a weekend trip. Insert a value of 1 in col. 8 of card 16 for a vacation trip.</p>
26KK	Details of KK missing in segment table	<p>1) If no trip has been taken in the past 3 months, insert a value of 2 in col. 19 of card 11 for a weekend trip. Insert a value of 2 in col. 11 of card 16 for a vacation trip.</p> <p>2) If a trip is recorded in the trip section, insert the missing values in the trip section (usually the trip segment numbers of the segment table have not been coded).</p>
27KK	Initial origin of KK is outside of Ontario	<p>1) If the respondent lived outside of Ontario at the time of the trip, insert a missing value code for the initial origin and end of trip.</p> <p>2) If the destination(s) of the trip is also outside of Ontario, insert a missing value code for all origins and destinations of the trip and corresponding detailed sections.</p> <p>3) If the respondent was living in Ontario at the time of the trip, (a) Insert an initial segment with the home residence as the initial origin. (b) Move the other segments down in the table accordingly. (c) Be sure that the last segment of the trip ends back at home. If not, insert a segment for that purpose. (d) Change the values of the segment numbers and corresponding data to concur with the additions or deletions of any segments. (e) Insert the new number of trip segments in</p>

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
27KK (cont'd)		col. 40 of card 11 for a week-end trip, and in col. 34-35 of card 16 for a vacation trip. (f) Insert proper values for any en route/destination values in the activity record of the trip section to correspond with changes in the segment table.
28KK	Accommodation code, transportation code, and number of nights should not be present in an outside of Ontario segment of a KK	1) Delete the values which should not be present.  2) Check the location codes which should be a five-digit Ontario code.
29KK	Errors exist in the KK segment table	1) Insert the values for the segment numbers in the segment table, if applicable.  2) If the transportation or accommodation codes are missing, insert the proper values, if known, or a missing value code for unknown entities.
30KK	There is more than one segment in the KK segment table, the origin and destination of which are outside of Ontario	1) If respondent was living outside of Ontario at the time of the trip, see 27KK (1) for corrective procedure.  2) If the respondent was living in Ontario at the time of the trip, see response to 28KK (2).  3) If the segments were coded incorrectly to include more than one outside of Ontario segment, (a) Take the first origin out of Ontario and the last destination out of Ontario to make one outside of Ontario segment. (b) Follow procedures (d) - (f) laid out in 27KK (3).
31KK	Accommodation code and number of nights should not be present in the last segment of a KK	1) Delete the values which should not be present.  2) If the destination of the last trip segment has not ended back at home (same location as the initial origin), (a) Insert a final segment for that purpose. (b) Insert a value for the transportation code in the final segment. (c) Insert the new number of trip segments in

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
31KK (cont'd)		col. 40 of card 11 for a weekend trip, and in col. 34-35 of card 16 for a vacation trip.
32KK	Number of days for doing an activity en route in a KK segment exceeds allowable value	Check for, and if possible, correct coding or keypunching errors for segment number, number of en route days, etc. Otherwise, send questionnaire back to consultant for verification.
33KK	Number of days for doing activity in a KK segment exceeds allowable value	Correct, if possible, values for number of days for doing an activity in a KK segment to be less than the total number of days for that trip. Otherwise, send questionnaire back to consultant for verification.
34KK	Detailed section of other KK does not correspond to the yes and no answer	1) If other KK trips occurred within the past 3 months, insert a value of 1 in col. 13 of card 15 for other weekend trips. Insert a value of 1 in col. 8 of card 22 for other vacation trips.  2) If no other trips have been recorded, insert a value of 2 in col. 13 of card 15 for other weekend trips. Insert a value of 2 in col. 8 of card 22 for other vacation trips.
35KK	Not enough detailed sections in the table for other KK	1) If other KK trips have occurred within the past 3 months, insert a missing value code for other KK for which no information is available.  2) If no KK trips have occurred follow the procedure for 34KK (2).
36KK	Details of other KK should not be present	1) If other KK trips have occurred within the past 3 months, follow the procedure for 34KK (1).  2) If no other KK trips have occurred, follow the procedure for 34KK (2).
37KK	Number of KK taken in past 3 months exceeds that taken in past 12 months  YY will designate the periods for free time activities, i.e., 01 : morning free time period 02 : afternoon free time period 03 : evening free time period	Insert a value in col. 17-18 of card 11 for weekend trips and in col. 9-10 of card 16 for vacation trips so that the number of trips taken in the past 3 months is $\leq$ number of trips indicated in the columns aforementioned.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
38YY	Details of YY should not be present	1) If details have been given for YY, insert a value of 1 in col. 860 and/or 867 and/or 874 of card 22.  2) If no details have been given for YY, insert a value of 2 in columns above.
39YY	Details of YY section missing	1) Insert missing values if given.  2) Insert a missing value for missing details if a value has been recorded for time spent in doing the activities.  3) Insert a value of 2 in col. 860 and/or 867 and/or 874 of card 22 if no details or time have been recorded for YY.
3950	Invalid day of recall of yesterday's free time activities	1) If the day of recall has been coded with the wrong value, insert the proper value in col. 30 of card 23.  2) If the day of recall is actually invalid, insert a missing value code in col. 29 and 30 of card 1.
3951	Recorded time for recreational activities in "Free Time Activities" section is in error	If leisure time activities have been included in the recorded time for recreational activities, insert a value for time spent in recreational activities only in col. 24-27 of card 23.
3952	Total number of hours in doing all activities is less than that of doing recreational activities	Check for coding or keypunching errors. Correct if necessary.
3953	Details of Table I in activity preference section should not be present	1) If the XXth activity was done in the past 3 months, insert a value of 1 in col. 31 of card 23.  2) If the XXth activity was not done in the past 12 months, delete the values for the activity from Table I and insert them in Table II. If all values have been deleted from Table I, insert a value of 2 in col. 31 of card 23.  If there were no values in Table II prior to the transfer from Table I, insert a value of 1 in col. 32 of card 23.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
3954	Details of Table I in activity preference section missing	See 3953. Insert missing values into Table I, or insert value 2 in col. 31 or card 23.
3955	Codes of activities preferred in Table I in error	1) Follow the procedure for 3953 (2).  2) Check the code in Table I for the activity. If the wrong code was assigned to it, insert the proper value.
3956	Number of days of participation in Table I in error	Not used in the edit routine.
3957	Details of Table II in activity preference section should not be present	1) If the XXth activity was done in the past 12 months, delete the values from Table II and insert them in Table I, and/or insert a value of 2 in col. 32 of card 23, and/or insert a value of 1 in col. 31 of card 23.  2) If the activity was not done in the past 12 months, insert a value of 1 in col. 32 of card 23.
3958	Details of Table II in activity preference section missing	See 3957. Insert missing values into Table II or insert value 2 in col. 32 of card 23.
3959	Codes of activities preferred in Table II in error	1) Follow the procedure for 3957 (2).  2) Check the code in Table II for the activity. If the wrong code was assigned to it, insert the proper value.
3960	Details of Table III in activity preference section should not be present	1) Insert a value of 1 in col. 33 of card 23.  2) If the XXth activity has been done in the past 12 months, delete the values from Table III and insert them into Table I, and/or insert a value of 2 in col. 33 of card 23, and/or insert a value of 1 in col. 31 of card 23.
3961	Details of Table III in activity preference section missing	Insert missing values into Table III or insert value 2 in col. 33 of card 23.
3962	Details of less preferred activities should not be present	If a less preferred activity is recorded, insert a value of 1 in col. 14 of card 25.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
3963	Details of less preferred activities missing	If no less preferred activity is recorded, insert a value of 2 in col. 14 of card 25.
3964	Inconsistent answer as to whether a household member owns a cottage or not	Check for, and if possible, correct coding or keypunching error. Otherwise insert a value of 95 in col. 29 and 30 of card 1.
3965	Education Question not properly asked	Possibly caused by not completing all of the education questions. Insert proper values; code as missing if necessary.
3966	Floor number of apartment missing	Insert a missing value code in col. 62-63 of card 26.
3967	Codes for other language used in the household missing	1) If no other language is recorded, insert a value of 2 in col. 67 of card 26.  2) If another language is stated, code the missing value in col. 68-71 of card 26.
3968	Codes for other language should not be present	If another language is recorded, insert a value of 1 in col. 67 of card 26.
3969	Household income should not be estimated	Delete the value from col. 76 of card 26.
3970	Household income is less than the income of the respondent	Verify with the consultant.
3971	Household income has not been estimated	Reject questionnaire if not corrected by the consultant.
3972	Duplicated information for both sets of education and employment questions	Check the education 'information' versus the household census. Delete invalid section. Verify with consultant if necessary.
3973	Information for the sets of education and employment questions is not complete - probably due to coding errors	Insert missing values.
3974	Inconsistency exists in the information for the sets of education and employment questions.	Correct inconsistency for the set of questions. Verify with consultant if necessary.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
3975	Second set of education and employment questions should not have been answered and/or coded	Follow the procedure for 3972.
3976	Second set of education and employment questions should have been answered and/or coded	Verify with consultant.
3980	Household income should not be less than or equal to personal income if both persons recorded in the demographic section are working full-time	Verify with consultant.
3981	A student should not be the person to give unknown answers to both of the income questions	Verify with consultant.
	ZZ will designate the code for the recreational activity, i.e. 01 : swimming 35 : golfing	
40ZZ	Information missing for activity ZZ done on a weekend and/or vacation trip	Insert a value of 1 in the column of card 2 or 3 which corresponds to activity ZZ having been done in the past 3 and 12 months. If the detailed section for activity ZZ is missing, insert values in the section for information known, and insert missing value codes for unknown data. Insert the value of the number of days of activity ZZ in the activity record of the trip section in #8 of the detailed section. Also insert the value in, and add it on to the value in, #7 for total number of days of participation.
41ZZ	Activity ZZ missing in the weekend and/or vacation trip section(s)	If the detailed section states that activity was last done on a trip and the location code is the same as one of the destinations of the trip, insert activity ZZ into the activity record of the trip section. Otherwise insert a value of 3 in the column of card 2 or 3 which corresponds to activity ZZ as having been done in the past 12 months.

<u>Code No.</u>	<u>Description</u>	<u>Response</u>
42ZZ	Number of days in doing activity ZZ on overnight trip(s) do not agree with that on weekend and/or vacation trip(s)	<p>1) If number of days of activity ZZ in the activity record of the trip section &gt; number of overnight days in the detailed section, insert the value of the latter into question 8/7 of the detailed section. Add the difference in the number of days between the detailed and trip section to the value corresponding to the total number of days in the past 3 months for activity ZZ in the detailed section.</p> <p>2) If the number of days of activity ZZ in the trip section is &lt; the number of overnight days in the detailed section, insert a value of 3 in the column of card 2 or 3 which corresponds to activity ZZ as having been done in the past 12 months.</p>
4299	Strata number does not agree with EA - ED values	<p>1) If EA and/or ED have been coded incorrectly, insert the correct values in col. 16-21 of card 1.</p> <p>2) If the strata is incorrect, insert the correct value in col. 22-23 of card 1.</p> <p>3) If the EA/ED and/or strata have been coded in the wrong month, check listings to be sure the interview was correctly carried out in that month, and assign the proper EA/ED and strata to the questionnaire.</p> <p>4) If the interview was conducted in the wrong month, insert a value of 96 in columns 29 and 30 of card 1.</p> <p>NOTE: When error codes 1021 and 3950 occur simultaneously, insert a value of 97 in col. 29 and 30 of card 1.</p>

## REFERENCES

- Ashraf, A., Platek, R. and Timmons, P.F. 1971. Some Methodological Aspects of the 1971 Canadian Travel Survey. Paper presented to the First Canadian Conference in Applied Statistics, Montreal, Quebec, Canada.
- Bishop, D. and Witt, P. 1972. A Study of the Substitution Mechanism in The TORPS Model. Report for the Tourism and Outdoor Recreation Planning Study, Government of Ontario.
- Blishen, B. 1967. "A Socio-economic Index for Occupation in Canada", in Canadian Review of Sociology and Anthropology, Volume 4.
- Burton, T.L. 1971. Experiments in Recreation, London, George Allen and Unwin Ltd.
- Canadian Outdoor Recreation Demand Study - Volume 3, Data Collection and Documentation, 1976. An Ontario Research Council on Leisure Publication prepared for the Federal-Provincial Parks Conference.
- Chubb, M. 1968. Outdoor Recreation in Michigan by a Systems Analysis Approach, Part III, The Practical Application of "RECSYS" and "SYMAY". Report prepared for the Michigan State Department of Conservation.
- Cicchetti, C.J., Seneca, J.J., and Davidson, P. 1969. The Demand and Supply for Outdoor Recreation, Washington, D.C. Bureau of Outdoor Recreation.
- Crombie, H.L. 1961. "Tourism in Relation to Natural Resources" Conference Background Papers for Resources for Tomorrow Vol. 2, Montreal, p. 976.
- Kish, L. 1965. Survey Methods, New York. John Wiley and Sons, Inc.
- Michelson, W. 1970. Man and his Urban Environment. Don Mills. Addison-Wesley Co.
- Moser, C.A. 1959. Survey Methods in Social Investigations, London. Heineman.
- Mueller, E. and Gurin, G. 1962. Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults. ORRRC Study, Report 20. Washington. U.S. Government Printing Office.

The Need For An Outdoor Recreational Survey of Ontario, 1963.  
The Conservation Council of Ontario, Toronto.

Ontario Recreation Supply Inventory-Users Manual, 1975. Queen's  
Park, Toronto, Tourism and Outdoor Recreation Planning  
Study Committee.

Ontario Recreation Survey - Survey Documents, 1973. Queen's  
Park, Toronto, Tourism and Outdoor Recreation Planning  
Study Committee.

Parks and Recreation Information Systems Planning Monograph No. 2.  
1966. California Department of Parks and Recreation.  
State Government of California, Sacramento, California.

Sellitz, C., Jahoda, M., Deutsch, M., and Cook, S. 1959. Research  
Methods in Social Relationships, Toronto. Holt, Rinehart  
and Winston.

Statewide Framework for Recreational Planning 1970. Technical  
Paper No. 3, New York Statewide Comprehensive Outdoor  
Recreation Plan. Office of Parks and Recreation, State  
of New York.

Tourism and Recreation in Ontario - Concepts of a Systems Model  
Framework 1970. Report prepared for the Ontario Tourism  
and Outdoor Recreation Planning Study, Government of  
Ontario by Kates, Peat, Marwick and Co.







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